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20 December 2016

Mr. Christopher Jung, P.G.
Superfund Branch
Division of Waste Management
200 Fair Oaks Lane
Frankfort, Kentucky 40601

Subject: **Annual Groundwater Monitoring Report – 2016**
Robert Bosch Tool Corporation
Leitchfield Division Building #1
410 Embry Drive, Leitchfield, Grayson County, Kentucky
Kentucky Agency Interest # 1579
Amec Foster Wheeler Project 6251161024

Dear Mr. Jung:

On behalf of Robert Bosch Tool Corporation (RBTC), Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) is pleased to submit this groundwater monitoring report for the RBTC Leitchfield Division Building #1, located at 410 Embry Drive in Leitchfield, Grayson County, Kentucky (AI # 1579).

Sincerely,

Amec Foster Wheeler Environment & Infrastructure, Inc.

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Amec Foster Wheeler Environment & Infrastructure, Inc.

ANNUAL GROUNDWATER MONITORING REPORT
2016

ROBERT BOSCH TOOL CORPORATION (AI # 1579)
LEITCHFIELD DIVISION BUILDING #1
410 EMBRY DRIVE
LEITCHFIELD, KENTUCKY

Submitted to:

Kentucky Department for Environmental Protection
Division of Waste Management
Superfund Branch

Prepared by:

Amec Foster Wheeler
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2456 Fortune Drive, Suite 100
Lexington, Kentucky 40509

Amec Foster Wheeler Project 6251-16-1024

20 December 2016

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1.0 INTRODUCTION

This groundwater monitoring report has been prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) at the request of Robert Bosch Tool Corporation (RBTC) for the RBTC Leitchfield Division Building #1 facility (LDB #1) in Leitchfield, Kentucky (**Figure 1**). This report covers the annual groundwater monitoring event conducted in 2016 as recommended in Amec Foster Wheeler's *Groundwater Monitoring Report, Third and Fourth Quarters 2015, Robert Bosch Tool Corporation (AI #1579), Leitchfield Building #1, 410 Embry Drive, Leitchfield, Kentucky* (Amec Foster Wheeler Project 6251121002.03.06) dated July 13, 2016.

The subject property consists of a tract of land approximately seven acres in size, developed with an 86,000 square foot former manufacturing facility and associated outbuildings. The property is located north of downtown Leitchfield at 410 Embry Drive, approximately 800 feet west-southwest of the intersection of Embry Drive and Salt River Road in Leitchfield, Grayson County, Kentucky. RBTC sold the property to Lots LLC, owned by Mr. Marty Higdon, in late 2010. The property is currently used primarily for warehousing. The site location is shown on the topographic map in **Figure 1**. The site vicinity is shown on the aerial photograph in **Figure 2**.

Investigation activities have been conducted at the site since late 2003 and remedial activities have been conducted concurrently with additional investigations since 2010. Investigation and remedial activities have focused on chlorinated volatile organic compounds (CVOCs) in groundwater.

This report summarizes the results of the monitoring event conducted in March 2016. During the event, groundwater samples were collected from available monitoring wells, former water supply wells, remediation test wells and sentinel wells for volatile organic compounds (VOCs) only. This report summarizes the sampling event and result.

2.0 FIELD ACTIVITIES

Amec Foster Wheeler conducted the annual groundwater monitoring event in March 2016. Most groundwater samples were collected from March 7 to March 9, 2016. Passive diffusion bags (PDBs) were deployed on March 7, 2016 and samples were collected on March 22, 2016.

The groundwater monitoring network at the site consists of the following:

- Thirty-eight permanent shallow and mid-level monitoring wells (MWs);
- Twelve remediation test wells (TWs), two of which are not sampled (TW-16 and TW-17) because of their close proximity to MW-8;
- Four remediation sentinel wells (SWs) originally installed to monitor injection area perimeters during remedial activities; and
- Three former water supply wells (PW-1 and PW-2 onsite, and the Kiper Well offsite).

Monitoring well locations are shown on **Figure 3**. A well construction summary table for permanent monitoring wells and former onsite production water supply wells and a summary table of well construction details for the remediation test wells is provided in **Appendix A**. The following sections describe the field activities performed by Amec Foster Wheeler for the annual groundwater monitoring well sampling.

2.1 SAMPLING AND ANALYTICAL METHODS

On March 7, 2016, prior to purging and sampling, the depth to groundwater were measured in the existing MWs, former water supply wells, TWs, and SWs using an electronic water level meter. The water level meter was decontaminated with an Alconox® and water mixture and rinsed with potable water prior to each use. The depth to groundwater was measured from a marked survey reference point at the top of casing to the groundwater surface in the well. Measurements were recorded to the nearest 0.01 foot. The depth to groundwater was subtracted from the surveyed elevation of the top of well casing reference point to determine the groundwater elevation. Groundwater elevation data for the MWs, former water supply wells, TWs, and SWs is presented on **Table 1**. Historical well gauging data for the MWs, former water supply wells, TWs, and SWs at the site are provided in **Appendix B**.

Wells were sampled to the extent practical using the low-flow method. A summary of sampling methods for groundwater sampling from MW, TW and SW wells specific to the site is included as **Appendix C**. No deviations from the Standard Operating Procedures (SOPs) in **Appendix C** occurred. In addition, the three former supply wells were sampled using no-purge groundwater sampling methods with PDBs. A summary of the sampling

methods for groundwater sampling from the former water supply wells specific to the site is also included as **Appendix C**. Field parameter readings collected during this sampling event are summarized in **Table 2**. Historical field parameter readings are included in **Appendix D**.

From each well, a groundwater sample was collected and transferred into appropriate laboratory-supplied 40 milliliter (ml), volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl) for analysis of VOCs, including the key CVOC parameters trichloroethene (TCE), cis-1,2-dichloroethene (c-1,2-DCE) and vinyl chloride (VC), by United States Environmental Protection Agency (USEPA) Method 8260B. The collected groundwater samples were maintained chilled in iced coolers, and shipped by overnight carrier to ESC Lab Sciences (ESC) located in Mt. Juliet, Tennessee.

3.0 MONITORING RESULTS

3.1 POTENTIOMETRIC CONDITIONS

A full round of water level measurements was collected at the start of the groundwater monitoring event on March 7, 2016 (see **Table 1**). A map depicting potentiometric conditions on March 7, 2016 is included in **Figure 4.** Overall, water level readings and hydraulic relationships between monitoring points were similar to previous conditions. The lateral hydraulic gradient in the shallow groundwater zone, as illustrated in the groundwater level elevation contour maps from this and previous events, remained generally from the southwest to the north-northeast, toward the Beaverdam Creek drainage north of Embry Drive. Hydrographs are provided in **Appendix E.**

3.2 LABORATORY ANALYTICAL RESULTS

Concentrations of CVOCs were detected above the laboratory Reported Detection Limit (RDL) in 48 of the 55 wells sampled during the March 2016 sampling event.

In Kentucky, the screening levels for groundwater at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites are the federal drinking water maximum contaminant levels (MCLs) as promulgated in the Kentucky Administrative Regulations, 401 KAR 30:031. Environmental performance standards, or (for constituents without established MCLs) the USEPA Regional Screening Levels (RSLs) for tap water as promulgated in the Kentucky Revised Statues, KRS 224.1-530 Screening levels relating to remediation -- Tiered remediation management -- Administrative regulations.

CVOCs were detected above the MCLs in 41 of the 55 wells. The CVOCs detected at concentrations above their respective MCLs include 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (c-1,2-DCE), trans-1,2-dichloroethene (t-1,2-DCE), tetrachloroethene (perchloroethylene, or PCE), 1,1,2-trichloroethane (1,1,2-TCA), trichloroethene (TCE), and vinyl chloride (VC). In order of maximum detected concentrations (highest to lowest), the following list summarize MCL exceedances in the groundwater samples collected in 2016:

- TCE was detected above the MCL in 31 wells at concentrations ranging from 7.4 micrograms per liter (µg/L) to 56,200 µg/L.
- Concentrations of c-1,2-DCE were detected above its MCL in 27 wells ranging from 98 µg/L to 31,100 µg/L.
- VC was detected above the MCL in 34 wells at concentrations ranging from 2.07 µg/L to 1,640 µg/L.
- 1,1-DCE was detected above its MCL in 22 wells at concentrations ranging from 7.09 µg/L to 1,620 µg/L.
- A concentration of t-1,2-DCE was detected in one well at 135 µg/L.

- PCE was detected above the MCL in two wells at concentrations of 7.21 µg/L and 16.8 µg/L, respectively.
- 1,2-DCA was detected above its MCL in three wells at concentrations ranging from 6.21 µg/L to 16.3 µg/L.
- 1,1,2-TCA was detected above the MCL in one well at a concentration of 14.3 µg/L.

VOCs were detected above the RSLs in 22 of the 55 wells. The CVOCs detected at concentrations above the RSLs include 1,1-dichloroethane (1,1-DCA), chloroform, and naphthalene. 1,1-DCA was detected above the RSL in 22 wells ranging from 6.34 µg/L to 351 µg/L. Chloroform was reported above the RSL in six wells at estimated ("J" flagged) concentrations between the laboratory RDL and Method Detection Limit (MDL) ranging from 0.454J µg/L to 13.3J µg/L. An estimated concentration of naphthalene above the RSL was reported in one well at 2.67J µg/L.

A summary of the groundwater laboratory analytical results for the MWs and former water supply wells is presented on **Table 3** and for the TWs and SWs on **Table 4**. Historical groundwater sampling analytical results are provided in **Appendix F**. A total CVOC isoconcentration contour map for shallow groundwater is shown on **Figure 5** and a TCE isoconcentration contour map for shallow groundwater is shown on **Figure 6**. The laboratory Report of Analysis and chain-of-custody records are included in **Appendix G**.

3.3 INVESTIGATIVE DERIVED WASTE

Investigative derived waste (IDW) consisted of well purging water and decontamination water from the March 2016 annual sampling event. The IDW was containerized in a 55-gallon drum and stored inside the building in the waste storage room. The drum was labelled with the contents and date of generation, sealed, and staged on site in a secured area.

On May 31, 2016, Heritage Transport, LLC (Heritage) arrived at the site to pick up the IDW. The drum of water was transported by Heritage to their facility located in Indianapolis, Indiana. A copy of the final signed uniform hazardous waste manifest is provided in **Appendix H**.

4.0 DISCUSSION OF FINDINGS

This section summarizes the results of the remedial activities to date in terms of field groundwater quality results and laboratory analytical results.

Graphing (trend) analyses were performed for three CVOCs: TCE, cis-1,2- DCE, and VC. In the trend analyses, current results are summarized in **Table 5** and compared to the baseline (pre-remediation) concentrations from June 2012, on a well-by-well basis. Analytical summary tables and trend graphs of selected parameters and results in selected wells over time are provided in **Appendix F**. The remediation performance results are discussed below, for each of the four treatment areas

Continued monitoring has indicated that general fluctuations in concentrations occur between sampling events. Therefore, making long term conclusions about remediation effectiveness based on an individual sampling event typically not practical. Therefore, the discussion below focuses on overall long-term trends in each injection area rather than results on a per-well or per-constituent basis. Any significant new or anomalous findings are also discussed in the sections below.

4.1 SOURCE AREA (BOS 100®)

BOS 100® was used to treat the primary source area, where baseline groundwater concentrations of total CVOCs, prior to any injections, were generally greater than 50 milligrams per liter (mg/L).

Areas where groundwater CVOC concentrations continued to persist at elevated concentrations (>3 mg/L TCE) after the first injections (in late 2012) included TW-6, MW-11A and TW-13. Additional BOS 100® injections in 2013-2014 were performed in those areas and in the additional source area identified in 2012, the former waste water treatment room (WWTR).

Hot spots with total CVOCs greater than 10 mg/L within the BOS-100® treatment area continue to persist at SW-2 (TCE 56.2 mg/L). A second hot spot noted in previous monitoring reports (TW-6) continues to decline in concentrations (TCE 8.28 mg/L in September 2015, 1.02 mg/L in November 2015 and 0.628 in March 2016). In addition, MW-11A and TW-12 had TCE concentrations greater than 1 mg/L. Apart from these areas, the remaining BOS-100® injection area continues to have TCE concentrations below 1 mg/L with no notable large fluctuations in concentrations.

Results continue to show that BOS 100® has been very effective in reducing CVOC concentrations in the source area overall, by one to three orders of magnitude. Hot spots indicate a potential influx of untreated CVOCs into the area from a previously unidentified source (specifically in the SW-2 area), migration of the plume, or upwelling from untreated

areas present in deeper, less weathered bedrock that could not be penetrated by the injections.

4.2 SECONDARY SOURCE AREA (BIOSTIMULATION) RESULTS

Biostimulation injections with 3-D Microemulsion® (3DMe®) were applied in the secondary source areas, where baseline groundwater total CVOC concentrations prior to any injections were between 10 mg/L and 50 mg/L. After the initial 3DMe® injections, TCE concentrations in the key secondary source area wells (MW-5, MW-8, MW-17 and MW-22) declined significantly, by at least one and in some cases two orders of magnitude. As anticipated, c-1,2-DCE, 1,1-DCE and VC concentrations increased sometimes by as much as an order of magnitude over the same time period. After the second injection, TCE was not detected in MW-8, MW-17 or MW-22 in May 2014; however, TCE concentrations increased by an order of magnitude in MW-5.

Since May 2014, overall TCE concentrations have remained reduced by 97 to 99% compared to baseline (June 2012) levels in most wells. Based on the March 2016 results, TCE concentrations are still more than an order of magnitude below original levels in MW-5 (1.41 mg/L versus baseline of 30 mg/L), three orders of magnitude below original levels in MW-17 (0.00781 mg/L versus baseline of 9.5 mg/L, a decrease of an order of magnitude since 2015), and four orders of magnitude below original levels in MW-22 (0.000795 mg/L versus baseline of 9.8 mg/L, a decrease of an order of magnitude since 2015). TCE was not detected in MW-8 (at a reporting limit of 0.000500 mg/L). Therefore, overall TCE concentrations continue to reduce based on the primary biostimulation monitoring areas.

With respect to the degradation compound c-1,2-DCE, MW-5, MW-8,MW-17 and MW-22 have seen decreased levels compared to baseline, at an average of 77.8% reduction (2016 sampling event). VC levels continue to fluctuate individually in wells; however, VC continues to remain elevated above baseline conditions, primarily in MW-5.

4.3 PLUME AREA (BIOSTIMULATION) RESULTS

Biostimulation injections with 3DMe® were also applied in the less concentrated plume areas across the site, outside of and around the secondary source areas, where baseline total CVOC concentrations in groundwater initially were below 10 mg/L.

After the original injection, TCE concentrations in the wells included in the post-injection monitoring for the plume biostimulation area decreased by at least an order of magnitude in all wells without significant rebound in any well at the 90-day post-injection monitoring event. After the second event, TCE concentrations remained at least an order of magnitude below the baseline conditions except in MW-21.

TCE concentrations in MW-21 have continued to exhibit significant fluctuations. They returned to baseline conditions (0.15 mg/L) in June 2012 and in May 2014, then starting

in August 2014, they began to drop by several orders of magnitude. However, in March 2016, TCE concentrations increased several orders of magnitude in MW-21 (0.226 mg/L in March 2016 versus a concentration of 0.000794 mg/L in November 2015). Fluctuations in TCE concentrations observed in MW-21 may be related to inflow from the area of untreated groundwater located under the residential properties to the southeast (upgradient) of this well.

Of the eight wells considered to be key plume area monitoring wells, only MW-21 contains TCE above its MCL of 0.005 mg/L. In November 2015, none of the wells contain c-1,2-DCE above its MCL of 0.07 mg/L (see **Table 6**); however, in March 2016, MW-7 and MW-13 contained c-1,2-DCE above the MCL (0.229 mg/L and 0.121 mg/L respectively). MW-7, MW-21 and MW-23 continue to contain VC above the MCL. Although the overall extent of the plume as well as the concentrations have been reduced significantly, on-going fluctuation of TCE, c-1,2-DCE and VC is likely to continue on the fringes of the plume.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 FINDINGS

Remedial treatments implemented to date continue to be effective in terms of long-term reduction in concentrations of CVOCs at the site. While a hot spot persists in the source area in the vicinity of SW-2, in general, concentrations are not rebounding in the treatment areas. Conditions in areas not treated to date (specifically, the residential properties east-southeast of the former RBTC property) appear to be stable.

As outlined in the 2015 semi-annual report submitted on July 13, 2016, since 2012, significant progress has been made in reducing source area concentrations and decreasing overall risk associated with the groundwater plume. These gains were summarized in detail in the semi-annual report; they included source removal (cleanout of the former degreaser pit and former wastewater pits), and source reduction, especially in the BOS-100® treatment area.

Based on a site visit conducted in October 2016, building use has not changed since submittal of the last monitoring report. The building is currently being used for storage of goods by the building owner. A portion of the building is also subleased to a tenant for storage. Personnel are onsite intermittently and for short durations to move goods in and out of the building. Regarding offsite residential properties, based on visual observations made from the property line, there do not appear to be any significant changes to occupancy or use of offsite residential properties. The Kiper property is no longer used for residential purposes.

5.2 RECOMMENDATIONS

Given the current relatively stable groundwater conditions at the site, as described above, along with the previously documented source reduction, annual groundwater monitoring is recommended in 2017.

6.0 LIMITATIONS

Our report presents a summary of information known to Amec Foster Wheeler concerning the project site which Amec Foster Wheeler considered pertinent to the scope of work and stated project objective. Amec Foster Wheeler has assembled data produced by itself and others and used that information to make analyses of site conditions. Amec Foster Wheeler has performed this investigation with the care and skill ordinarily used by members of the environmental consulting profession practicing under similar conditions. The activities and evaluative approaches used in this assessment are consistent with those normally employed in environmental assessments and waste-management projects of this type. Our evaluation of site conditions is based on our understanding of the site and project information and the data obtained in our assessment. The general subsurface conditions utilized in our evaluation have been based on interpolation of subsurface data between the sampling locations. The conclusions presented herein are those that are deemed pertinent by Amec Foster Wheeler based upon the assumed accuracy of the available information. No other warranty, expressed or implied, is made as to the professional advice included in this report. The information presented in this report is not intended for any use other than the stated objectives of the project.

TABLES

MW-1	03/07/16	723.51	2.36	721.15
MW-2	03/07/16	710.98	1.99	708.99
MW-2M	03/07/16	710.93	6.01	704.92
MW-3	03/07/16	710.02	1.05	708.97
MW-4	03/07/16	709.10	4.46	704.64
MW-5	03/07/16	706.78	3.40	703.38
MW-5M	03/07/16	706.40	6.21	700.19
MW-6	03/07/16	703.66	2.70	700.96
MW-7	03/07/16	702.54	1.52	701.02
MW-8	03/07/16	708.68	4.85	703.83
MW-8M	03/07/16	708.87	9.00	699.87
MW-9	03/07/16	710.93	5.83	705.10
MW-10	03/07/16	710.95	0.89	710.06
MW-11A	03/07/16	710.97	2.43	708.54
MW-11B	03/07/16	711.01	2.80	708.21
MW-12A	03/07/16	710.96	3.33	707.63
MW-12B	03/07/16	710.85	3.54	707.31
MW-13	03/07/16	705.18	2.69	702.49
MW-13M	03/07/16	705.93	5.81	700.12
MW-14	03/07/16	706.05	2.85	703.20
MW-15	03/07/16	702.66	1.41	701.25
MW-16	03/07/16	706.74	2.54	704.20
MW-17	03/07/16	709.96	2.78	707.18
MW-18	03/07/16	711.13	2.00	709.13
MW-19	03/07/16	710.16	0.00	710.16
MW-20	03/07/16	711.30	1.68	709.62
MW-21	03/07/16	708.88	9.64	699.24
MW-22	03/07/16	710.14	5.38	704.76
MW-23	03/07/16	707.30	2.43	704.87
MW-24	03/07/16	705.65	0.73	704.92
MW-25	03/07/16	710.93	2.00	708.93
MW-26	03/07/16	710.87	2.73	708.14
MW-27	03/07/16	710.85	4.83	706.02
MW-28	03/07/16	708.83	4.95	703.88
MW-29	03/07/16	711.89	3.37	708.52
MW-30	03/07/16	710.12	2.77	707.35
MW-31	03/07/16	717.71	9.24	708.47
MW-32	03/07/16	706.11	2.88	703.23
SW-1	03/07/16	711.0	2.96	708.04
SW-2	03/07/16	710.9	2.55	708.35
SW-3	03/07/16	711.0	2.42	708.58
SW-4	03/07/16	710.8	2.38	708.42
TW-5	03/07/16	711.0	1.78	709.22
TW-6	03/07/16	711.0	2.22	708.78
TW-9	03/07/16	710.9	2.09	708.81
TW-10	03/07/16	710.9	2.53	708.37
TW-11	03/07/16	711.0	2.76	708.24
TW-12	03/07/16	711.1	3.47	707.63
TW-13	03/07/16	710.9	4.37	706.53
TW-14	03/07/16	711.0	4.77	706.23
TW-18	03/07/16	711.0	2.35	708.65
TW-19	03/07/16	711.0	2.35	708.65
PW-1	03/07/16	725.58	15.24	710.34
PW-2	03/07/16	712.36	46.33	666.03
KIPER	03/07/16	713	5.24	707.76

Notes:
ft = feet
BMP = below Measuring Point
msl = mean sea level.
Elevations expressed in feet above North American Vertical Datum 1988.
Elevations in red have been remeasured and changed since a February 18, 2014 survey

TABLE 2

Summary of Groundwater Field Parameter Data (March 2016)
Robert Bosch Tool Corporation Former Leitchfield Division
Leitchfield, Kentucky
Amec Foster Wheeler Project 6251161024.01.02

Well No.	Date	Temp. (°C)	SC (uS/cm)	pH (S.U.)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
MW-1	3/8/2016	12.48	244	6.11	0.75	153.4	9.09
MW-2	3/8/2016	14.10	790	7.07	0.29	28.4	4.27
MW-2M	3/8/2016	16.97	894	7.30	0.18	-89.7	3.30
MW-3	3/8/2016	12.59	714	6.23	0.32	-46.4	63.3
MW-4	3/8/2016	13.33	820	6.41	0.37	-69.1	17.2
MW-5	3/8/2016	14.54	2,068	6.53	0.35	-52.9	24.2
MW-5M	3/8/2016	15.29	684	8.17	3.22	-9.7	4.16
MW-6	3/8/2016	13.08	288	7.03	1.64	-0.7	6.40
MW-7	3/8/2016	14.14	1,341	7.11	0.63	-104.9	3.32
MW-8	3/7/2016	16.30	1,364	6.04	0.82	-72.3	36.5
MW-8M	3/7/2016	17.60	737	7.32	0.33	-29.4	3.44
MW-9	3/9/2016	16.13	1,293	6.76	0.57	-27.1	2.75
MW-10	3/9/2016	12.51	1,406	6.53	1.73	-58.1	36.9
MW-11A	3/9/2016	15.32	6,545	7.05	0.44	70.1	6.88
MW-11B	3/9/2016	13.96	7,378	6.98	1.72	98.8	3.56
MW-12A	3/9/2016	15.48	5,548	6.75	0.33	85.8	11.8
MW-12B	3/9/2016	14.31	5,068	6.57	0.59	87.1	5.16
MW-13	3/7/2016	12.82	588	6.55	0.42	-77.0	13.3
MW-13M	3/7/2016	17.47	124	9.02	0.54	27.7	26.4
MW-14	3/7/2016	12.49	425	6.03	0.31	7.5	17.5
MW-15	3/8/2016	12.61	457	7.04	0.70	-3.1	9.36
MW-16	3/8/2016	12.67	449	7.15	0.25	8.1	4.49
MW-17	3/8/2016	13.65	1,331	5.95	0.50	-30.2	29.6
MW-19	3/9/2016	11.55	719	7.06	1.30	68.8	13.6
MW-20	3/9/2016	11.49	445	7.33	0.77	32.9	2.28
MW-21	3/7/2016	14.05	1,150	6.79	0.93	-98.0	64.0
MW-22	3/8/2016	12.58	1,209	6.53	1.45	-26.2	30.1
MW-23	3/7/2016	14.91	921	6.91	0.94	-52.9	1.88
MW-24	3/7/2016	13.65	884	6.86	3.13	197.4	1.06
MW-25	3/9/2016	14.35	9,954	7.20	0.38	19.8	3.04
MW-26	3/9/2016	14.45	10,697	6.81	0.51	85.7	22.2
MW-27	3/9/2016	14.27	1,395	5.75	0.65	46.6	2.82
MW-28	3/8/2016	13.95	610	6.75	0.50	-21.6	1.59
MW-29	3/8/2016	11.64	1,493	6.09	5.19	155.7	1.31
MW-30	3/8/2016	12.07	999	7.22	5.09	21.4	2.58
MW-31	3/8/2016	18.35	514	7.10	6.44	51.4	37.3
MW-32	3/7/2016	13.61	164	8.24	0.36	-13.2	12.3
TW-5	3/9/2016	15.02	1,743	6.91	0.66	18.4	6.55
TW-6	3/8/2016	14.57	12,860	7.07	0.56	103.9	16.4
TW-9	3/8/2016	15.37	6,308	7.31	0.40	76.7	42.6
TW-10	3/9/2016	15.65	9,548	7.07	0.57	105.0	9.96
TW-11	3/9/2016	15.34	10,821	7.33	0.35	66.6	1.30
TW-12	3/9/2016	15.59	5,894	6.81	0.33	76.0	61.8
TW-13	3/8/2016	15.02	3,135	7.43	2.67	79.8	48.0
TW-14	3/8/2016	14.95	2,585	7.20	1.47	89.2	49.8
TW-18	3/8/2016	12.51	7,596	6.60	1.33	104.1	114
TW-19	3/8/2016	11.97	4,379	6.26	1.55	132.0	7.86
SW-1	3/8/2016	15.29	5,668	6.75	2.06	72.6	1.31
SW-2	3/8/2016	15.08	1,305	7.10	3.25	49.9	274
SW-3	3/8/2016	13.66	21,168	6.90	1.48	139.0	131
SW-4	3/8/2016	12.92	1,023	7.58	1.83	75.7	--

Notes:

(°C) Degrees Celsius
(uS/cm) MicroSiemens per Centimeter
(mg/L) Milligrams per liter
(S.U.) Standard Units
(mV) Millivolts
(NTU) Nephelometric Turbidity Units

Prepared By/Date: SGW 03/11/16
Checked By/Date: JAM 03/14/16

Robert Bosch Tool Corporation Former Leitchfield Division
Leitchfield, Kentucky
Amec Foster Wheeler Project 6251161024.01.02

Units	KDWM MCL	USEPA RSL	MW-1 03/08/16	MW-2 03/08/16	MW-2M 03/08/16	MW-3 03/08/16	MW-4 03/08/16	MW-5 03/08/16	MW-5M 03/08/16	MW-6 03/08/16	MW-7 03/08/16	MW-8 03/07/16	MW-8M 03/07/16	MW-9 03/09/16	MW-10 03/09/16
µg/L		14000	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	*0.347J*	*0.533J*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**1.84**
µg/L		7.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	*1.28J*	< 5.0
µg/L		21000	< 5.0	*0.553J*	*2.63J*	**9.56**	**34.5**	**21.2**	< 5.0	< 5.0	< 5.0	*0.747J*	< 5.0	*2.54J*	< 5.0
µg/L		0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		190	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
µg/L		2.7	< 1.0	**252**	**351**	**64.9**	*0.6J*	**40.3**	**40.6**	< 1.0	**1.72**	< 1.0	< 1.0	*0.453J*	< 1.0
µg/L	5		< 1.0	**6.21**	**11.4**	**2.31**	< 1.0	**1.04**	*0.623J*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	7		< 1.0	**1430**	**1620**	**75.7**	< 1.0	**27**	**67.3**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	70		< 1.0	**173**	**494**	**216**	**2.1**	**2060**	**2810**	< 1.0	**229**	**2.37**	**2.48**	**98**	**2.94**
µg/L	100		< 1.0	**1.24**	**3.86**	**1.64**	< 1.0	**16.9**	**12**	< 1.0	**1.34**	*0.713J*	< 1.0	**2.77**	< 1.0
µg/L	700		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		5600	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
µg/L	5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		1200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
µg/L		0.17	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		55000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	5		< 1.0	*0.484J*	**1.14**	< 1.0	< 1.0	< 1.0	**4.93**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	1000		< 5.0	< 5.0	< 5.0	< 5.0	*1.34J*	*1.15J*	< 5.0	< 5.0	< 5.0	*2.79J*	< 5.0	< 5.0	< 5.0
µg/L	200		< 1.0	**1.48**	**1.8**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	5		< 1.0	< 1.0	*0.702J*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	5		< 1.0	**331**	**1230**	**2.13**	*0.586J*	**1410**	**4190**	< 1.0	< 1.0	< 1.0	< 1.0	**7.4**	*0.513J*
µg/L		10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		120	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	2		< 1.0	**113**	**34.5**	**199**	**3.29**	**1140**	**34.9**	< 1.0	**70.2**	**1.41**	< 1.0	**414**	*0.413J*
µg/L	10000		< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Waste Management
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Level (Tap Water), May 2016
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concentrations between the laboratory Method Detection Limit (MDL) and RL (i.e., "J" flagged)
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Leitchfield, Kentucky
Amec Foster Wheeler Project 6251161024.01.02

Units	MCL	RSL	MW-12B 03/09/16	MW-13 03/07/16	MW-13M 03/07/16	MW-14 03/07/16	MW-15 03/08/16	MW-16 03/08/16	MW-17 03/08/16	MW-18 03/08/16	MW-19 03/09/16	MW-20 03/08/16	MW-21 03/07/16	MW-22 03/08/16	MW-23 03/07/16
µg/L		14000	< 50	< 50	< 50	< 50	< 50	< 50	*33.8J*	*15.7J*	< 50	< 50	< 50	< 50	< 50
µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**3.9**	< 1.0	< 1.0	*0.785J*	*0.406J*	< 1.0	< 1.0
µg/L		7.5	*3.12J*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		21000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**53.2**	*0.608J*	< 5.0	< 5.0	< 5.0	**9.8**	< 5.0
µg/L		0.22	*0.459J*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		190	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
µg/L		2.7	**8.5**	*0.447J*	< 1.0	< 1.0	< 1.0	*0.867J*	**9.52**	< 1.0	< 1.0	**74.8**	*0.835J*	**1.03**	**1.19**
µg/L	5		*0.664J*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**1.52**	< 1.0	< 1.0	**2.65**	< 1.0	< 1.0	< 1.0
µg/L	7		**13.5**	*0.452J*	< 1.0	< 1.0	< 1.0	< 1.0	**7.09**	< 1.0	< 1.0	**269**	**8.79**	< 1.0	< 1.0
µg/L	70		**855**	< 1.0	**12.4**	**12.3**	*0.992J*	**3.39**	**2610**	*0.407J*	*0.330J*	**7.65**	**25.2**	**17.3**	**17.7**
µg/L	100		**2.43**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**32.4**	< 1.0	< 1.0	< 1.0	*0.868J*	< 1.0	< 1.0
µg/L	700		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		5600	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	**21.3**	< 10.0	< 10.0	< 10.0	< 10.0	*5.06J*	< 10.0
µg/L	5		*1.17J*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		1200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	*3.2J*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
µg/L		0.17	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
µg/L		55000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.59J*	< 1.0	< 1.0	*0.403J*	*0.826J*	< 1.0	< 1.0
µg/L	1000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**16.7**	**5.88**	< 5.0	< 5.0	*3.89J*	**22.4**	< 5.0
µg/L	200		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**2.36**	< 1.0	< 1.0	< 1.0
µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	5		**186**	< 1.0	**20.1**	< 1.0	*0.818J*	< 1.0	**7.81**	< 1.0	< 1.0	**2.07**	**226**	*0.795J*	< 1.0
µg/L		10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L		120	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
µg/L	2		**104**	**57.5**	< 1.0	**1.28**	< 1.0	< 1.0	**766**	< 1.0	< 1.0	< 1.0	**26**	**7.24**	**165**
µg/L	10000		< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	**3.37**	*0.640J*	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Waste Management
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Level (Tap Water), May 2016
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Robert Bosch Tool Corporation Former Leitchfield Division
Leitchfield, Kentucky
Amec Foster Wheeler Project 6251161024.01.02

Constituent	Units	MCL	RSL	MW-27 03/09/16	MW-28 03/08/16	MW-29 03/08/16	MW-30 03/08/16	MW-31 03/08/16	MW-32 03/07/16	PW-1 03/22/16	PW-2 03/22/16	KIPER 03/22/16
Acetone	µg/L		14000	< 50	< 50	< 50	< 50	*11.5J*	< 50	< 50	< 50	< 50
Benzene	µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/L		7.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/L		21000	*3.11J*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	*1.03J*	*0.959J*	< 5.0
Chloroform	µg/L		0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloromethane	µg/L		190	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
1,1-Dichloroethane	µg/L		2.7	**40.9**	*0.470J*	< 1.0	**6.34**	< 1.0	< 1.0	**21.4**	**211**	**50**
1,2-Dichloroethane	µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**3.41**	*0.974J*
1,1-Dichloroethene	µg/L	7		**6.57**	< 1.0	< 1.0	**20.4**	< 1.0	< 1.0	**17.5**	**883**	**198**
cis-1,2-Dichloroethene	µg/L	70		**297**	**21.2**	< 1.0	**220**	< 1.0	**63.6**	**2.15**	**637**	**533**
trans-1,2-Dichloroethene	µg/L	100		*0.948J*	< 1.0	< 1.0	**1.78**	< 1.0	*0.421J*	< 1.0	**2.55**	**7.54**
Ethylbenzene	µg/L	700		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.670J*	< 1.0	< 1.0
2-Butanone (MEK)	µg/L		5600	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Methylene chloride	µg/L	5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone (MIBK)	µg/L		1200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Naphthalene	µg/L		0.17	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	*2.67J*	< 5.0	< 5.0
1,1,2-Trichlorotrifluoroethane	µg/L		55000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.419J*
Tetrachloroethene	µg/L	5		< 1.0	< 1.0	< 1.0	**2.91**	< 1.0	< 1.0	< 1.0	**1.31**	**9.5**
Toluene	µg/L	1000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloethane	µg/L	200		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.958J*	**1.73**	*0.424J*
1,1,2-Trichloroethane	µg/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	5		**109**	*0.459J*	< 1.0	**1430**	< 1.0	**3.14**	< 1.0	**903**	**6670**
1,2,4-Trimethylbenzene	µg/L		10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**1.92**	< 1.0	*0.525J*
1,2,3-Trimethylbenzene	µg/L		15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.748J*	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/L		120	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.495J*	< 1.0	< 1.0
Vinyl chloride	µg/L	2		**143**	**5.91**	< 1.0	*0.578J*	< 1.0	**6.53**	**9.06**	**29.6**	**10.3**
Xylenes, Total	µg/L	10000		< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	*1.34J*

Notes:
µg/L = micrograms per liter
KDWM = Kentucky Department of Waste Management
MCL = Maximum Contaminant Level
USEPA = United States Environmental Protection Agency
RSL = USEPA Regional Screening Level (Tap Water), May 2016
Bold values indicate detections above the laboratory Reporting Limit (RL)
Italicized values indicate estimated concentrations between the laboratory Method Detection Limit (MDL) and RL (i.e., "J" flagged)
Yellow shaded values indicate exceedance of MCL
Orange shaded values indicate exceedance of RSL

Robert Bosch Tool Corporation Former Leitchfield Division
Leitchfield, Kentucky
Amec Foster Wheeler Project 6251161024.01.02

	Units	KDWM MCL	USEPA RSL	TW-5 03/09/16	TW-6 03/08/16	TW-9 03/08/16	TW-10 03/09/16	TW-11 03/09/16	TW-12 03/09/16	TW-13 03/08/16	TW-14 03/08/16	TW-18 03/08/16	TW-19 03/08/16	SW-1 03/08/16	SW-2 03/08/16
	µg/L	5		< 1.0	< 50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.730J*	**1.05**	< 1.0	< 10.0
	µg/L		7.5	< 5.0	< 250	< 5.0	*3.36J*	*4.81J*	**6.43**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 50
	µg/L		0.22	< 5.0	< 250	< 5.0	< 5.0	< 5.0	*0.750J*	< 5.0	< 5.0	*0.960J*	< 5.0	< 5.0	*13.3J*
	µg/L		190	< 2.5	< 125	< 2.5	*0.832J*	< 2.5	*1.56J*	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 25
	µg/L		2.7	**31.7**	< 50	< 1.0	**1.38**	< 1.0	**36**	**8.75**	**12.6**	**2.03**	**6.65**	**7.22**	*9.3J*
	µg/L	5		*0.927J*	< 50	< 1.0	< 1.0	< 1.0	**1.07**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**16.3**
	µg/L	7		**64**	< 50	*0.456J*	**3.13**	< 1.0	**129**	**20.4**	**2.36**	**7.81**	**8.19**	**18.9**	**68.1**
	µg/L	70		**157**	**153**	**159**	**67.4**	**1.34**	**906**	**419**	**140**	**2680**	**570**	**306**	**31100**
;	µg/L	100		**2.25**	< 50	*0.852J*	< 1.0	< 1.0	**7.54**	**1.77**	*0.468J*	**66.1**	**7.52**	**1.57**	**135**
	µg/L	5		< 5.0	< 250	*1.18J*	< 5.0	< 5.0	*1.84J*	*1.86J*	< 5.0	< 5.0	*1.51J*	< 5.0	< 50
	µg/L	5		< 1.0	< 50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**7.21**	**2.42**	< 1.0	**16.8**
	µg/L	5		< 1.0	< 50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	*0.536J*	< 1.0	< 1.0	**14.3**
	µg/L	5		**227**	**628**	**233**	**99.6**	**2.18**	**1820**	**838**	**103**	**3280**	**533**	**597**	**56200**
	µg/L	2		**43.1**	< 50	**3.49**	**10.9**	*0.866J*	**38.8**	**69.7**	**130**	**54.3**	**11.6**	**31.8**	**1640**

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Environmental Protection Agency
Screening Level (Tap Water), May 2016
ections above the laboratory Reporting Limit (RL)
; estimated concentrations between the laboratory Method Detection Limit (MDL) and RL (i.e., "J" flagged)
dicate exceedance of MCL
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Table 5
Trend Analyses for TCE, Cis-DCE and VC, 2012-2016
RBTC LDB #1, Leitchfield, Kentucky
Amec Foster Wheeler Project No. 6251-16-1024

	Trichloroethene (TCE)																					
Sample Date	MCL Jun-12	0.005 Dec-12	mg/L Change*	Feb-13	Change*	Jun-13	Change*	May-14	Change*	Aug-14	Change*	Oct-14	Change*	Feb-15	Change*	May-15	Change*	Sep-15	Change*	Nov-15	Change*	Mar-16	Change*
BOS-100 Monitoring Wells Primary Source Area																							
MW-11A	43	9.6	-77.7%	22	-48.8%	34	-20.9%	1.2	-97.2%	1.3	-97.0%	1.8	-95.8%	1.0	-97.7%	1.7	-96.0%	1.95	-95.5%	2.29	-94.7%	1.9	-95.6%
MW-11B	55	0.29	-99.5%	0.11	-99.8%	0.20	-99.6%	0.15	-99.7%	0.13	-99.8%	2.8	-94.9%	0.072	-99.9%	2.9	-94.7%	0.138	-99.7%	0.340	-99.4%	0.0431	-99.9%
MW-12A	64	0.070	-99.9%	0.11	-99.8%	0.16	-99.8%	0.25	-99.6%	0.17	-99.7%	0.21	-99.7%	0.14	-99.8%	0.32	-99.5%	0.239	-99.6%	0.378	-99.4%	0.476	-99.3%
MW-12B	65	0.23	-99.6%	0.17	-99.7%	0.22	-99.7%	0.56	-99.1%	0.22	-99.7%	0.25	-99.6%	0.21	-99.7%	0.53	-99.2%	0.334	-99.5%	0.349	-99.5%	0.186	-99.7%
MW-25	2.6	0.48	-81.5%	0.54	-79.2%	1.1	-57.7%	0.68	-73.8%	0.40	-84.6%	0.24	-90.8%	0.16	-93.8%	0.24	-90.8%	0.312	-88.0%	0.147	-94.3%	0.120	-95.4%
MW-26	59	0.067	-99.9%	0.12	-99.8%	0.10	-99.8%	0.077	-99.9%	0.038	-99.9%	0.10	-99.8%	0.086	-99.9%	0.062	-99.9%	0.138	-99.8%	0.0665	-99.9%	0.0513	-99.9%
MW-27	58	0.063	-99.9%	0.10	-99.8%	0.0078	-100.0%	0.11	-99.8%	0.43	-99.3%	0.45	-99.2%	0.73	-98.7%	0.11	-99.8%	0.131	-99.8%	0.124	-99.8%	0.109	-99.8%
MW-28	0.030	0.00058	-98.1%	0.00050	-98.3%	0.00063	-97.9%	0.00050	-98.3%	0.00050	-98.3%	0.00050	-98.3%	0.00050	-98.3%	0.00054	-98.2%	0.00100	-96.7%	0.000614	-98.0%	0.000459	-98.5%
TW-5	N/A	0.20	N/A	0.20	N/A	0.22	N/A	0.31	N/A	0.41	N/A	0.29	N/A	0.38	N/A	0.70	N/A	0.262	N/A	0.301	N/A	0.227	N/A
TW-6*	280	15	-94.6%	18	-93.6%	26	-90.7%	8.0	-97.1%	38	-86.4%	6.9	-97.5%	1.0	-99.6%	35	-87.5%	8.28	-97.0%	1.02	-99.6%	0.628	-99.8%
TW-9	28	0.049	-99.8%	0.14	-99.5%	0.84	-97.0%	0.21	-99.3%	0.40	-98.6%	N/A	N/A	0.58	N/A	0.38	N/A	0.508	N/A	0.304	N/A	0.233	N/A
TW-10	13	0.18	-98.6%	0.26	-98.0%	0.29	-97.8%	0.039	-99.7%	0.039	-99.7%	0.15	-98.8%	0.020	-99.8%	0.049	-99.6%	0.105	-99.2%	0.0479	-99.6%	0.0996	-99.2%
TW-11	73	0.027	-100.0%	0.067	-99.9%	0.038	-99.9%	0.0089	-100.0%	0.024	-100.0%	0.019	-100.0%	0.63	-99.1%	0.010	-100.0%	0.00525	-100.0%	0.00320	-100.0%	0.00218	-100.0%
TW-12	62	0.074	-99.9%	0.076	-99.9%	0.27	-99.6%	0.70	-98.9%	0.40	-99.4%	0.58	-99.1%	0.74	-98.8%	1.5	-97.6%	1.07	-98.3%	1.39	-97.8%	1.82	-97.1%
TW-13	72	1.1	-98.5%	1.1	-98.5%	3.3	-95.4%	3.9	-94.6%	1.3	-98.2%	0.091	-99.9%	1.9	-97.4%	0.97	-98.7%	2.70	-96.3%	1.42	-98.0%	0.838	-98.8%
TW-14	N/A	0.12	N/A	0.64	N/A	0.60	N/A	4.3	N/A	0.46	N/A	0.85	N/A	0.41	N/A	0.26	N/A	0.918	N/A	0.431	N/A	0.103	N/A
% Change Avg			-96.2%		-93.9%		-89.7%		-96.9%		-97.2%		-98.0%		-98.7%		-97.0%		-97.6%		-98.5%		-98.7%
Biostimulation Monitoring Wells Secondary Source Area																							
MW-5	30	2.0	-93.3%	0.13	-99.6%	0.14	-99.5%	3.1	-89.7%	0.32	-98.9%	1.1	-96.3%	1.1	-96.3%	0.88	-97.1%	1.18	-96.1%	2.69	-91.0%	1.41	-95.3%
MW-8	8.1	0.50	-93.8%	0.23	-97.2%	0.16	-98.0%	0.025	-99.7%	0.025	-99.7%	0.025	-99.7%	0.0012	-100.0%	0.17	-97.9%	0.00108	-100.0%	0.000507	-100.0%	0.000500	-100.0%
MW-17	9.5	0.50	-94.7%	0.20	-97.9%	0.20	-97.9%	0.00050	-100.0%	0.038	-99.6%	0.050	-99.5%	0.015	-99.8%	0.027	-99.7%	0.0428	-99.5%	0.0327	-99.7%	0.00781	-99.9%
MW-22	9.8	0.050	-99.5%	0.043	-99.6%	0.034	-99.7%	0.0125	-99.9%	0.0099	-99.9%	0.0052	-99.9%	0.0021	-100.0%	0.0017	-100.0%	0.00050	-100.0%	0.00181	-100.0%	0.000795	-100.0%
% Change Avg			-95.3%		-98.5%		-98.8%		-97.3%		-99.5%		-98.9%		-99.0%		-98.7%		-98.9%		-97.7%		-98.8%
Biostimulation Monitoring Wells Plume Area																							
MW-4	0.13	0.026	-80.0%	0.022	-83.1%	0.0044	-96.6%	0.00067	-99.5%	0.00072	-99.4%	0.0012	-99.1%	0.00044	-99.7%	0.00050	-99.6%	0.00050	-99.6%	0.00050	-99.6%	0.000586	-99.5%
MW-7	1.5	0.0050	-99.7%	0.00050	-100.0%	0.00050	-100.0%	0.00050	-100.0%	0.00050	-100.0%	0.00050	-100.0%	0.00050	-100.0%	0.0044	-99.7%	0.00050	-100.0%	0.00050	-100.0%	0.000500	-100.0%
MW-10	0.032	0.0028	-91.3%	0.0038	-88.1%	0.0036	-88.8%	0.0018	-94.4%	0.0013	-95.9%	0.00075	-97.7%	0.0016	-95.0%	0.00076	-97.6%	0.00131	-95.9%	0.000663	-97.9%	0.000513	-98.4%
MW-13	0.50	0.021	-95.8%	0.037	-92.6%	0.032	-93.6%	0.0029	-99.4%	0.00050	-99.9%	0.00050	-99.9%	0.00050	-99.9%	0.00050	-99.9%	0.00050	-99.9%	0.00050	-99.9%	0.000500	-99.9%
MW-14	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.000500	None
MW-18	0.0046	0.00050	-89.1%	0.00050	-89.1%	0.00050	-89.1%	0.00044	-90.4%	0.00050	-89.1%	0.00050	-89.1%	0.00050	-89.1%	0.00050	-89.1%	0.00050	-89.1%	0.00050	-89.1%	0.000500	-89.1%
MW-21	0.15	0.020	-86.7%	0.0088	-94.1%	0.0036	-97.6%	0.15	0.0%	0.017	-88.7%	0.0014	-99.1%	0.00065	-99.6%	0.0011	-99.3%	0.00050	-99.7%	0.000794	-99.5%	0.226	+50.7%
MW-23	1.1	0.11	-90.0%	0.051	-95.4%	0.012	-98.9%	0.028	-97.5%	0.014	-98.7%	0.0075	-99.3%	0.0045	-99.6%	0.013	-98.8%	0.00050	-100.0%	0.000821	-99.9%	0.000500	-100.0%
% Change Avg			-90.4%		-91.8%		-94.9%		-83.0%		-96.0%		-97.7%		-97.5%		-97.7%		-97.7%		-98.0%		-76.6%
Miscellaneous/Baseline Wells																							
MW-1	0.0017	0.0060	+252.9%	0.00050	-70.59%	0.00050	-70.59%	0.00050	-70.59%	0.00052	-69.41%	0.00095	-44.12%	0.00050	-70.6%	0.00050	-70.6%	0.00050	-70.6%	0.000825	-51.5%	0.000500	-70.6%
MW-2	0.095	0.20	+110.5%	0.23	+142.1%	0.30	+215.8%	0.63	+563.2%	1.5	+1478.9%	1.1	+1057.9%	0.018	-81.1%	0.012	-87.4%	0.00050	-99.5%	0.741	+680.0%	0.331	+248.4%
MW-2M	2.2	0.85	-61.4%	1.7	-22.7%	0.88	-60.00%	7.6	+245.5%	7.1	+222.7%	6.8	+209.1%	6.8	+209.1%	2.6	+18.2%	2.86	+30.0%	2.74	+24.5%	1.23	-44.1%
MW-3	0.19	0.0125	-93.4%	0.0017	-99.1%	0.0125	-93.42%	0.014	-92.63%	0.048	-74.74%	0.0066	-96.53%	0.12	-36.8%	0.0083	-95.6%	0.0919	-51.6%	0.0100	-94.7%	0.00213	-98.9%
MW-5M	1.3	0.45	-65.4%	2.8	+115.4%	2.4	+84.6%	0.36	-72.31%	1.1	-15.38%	0.025	-98.08%	3.2	+146.2%	3.7	+184.6%	4.05	+211.5%	2.77	+113.1%	4.19	+222.3%
MW-6	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.000500	None
MW-8M	0.0014	0.0012	-14.3%	0.00072	-48.6%	0.00094	-32.86%	0.00081	-42.1%	0.00072	-48.57%	0.0013	-7.14%	0.00069	-50.7%	0.0011	-21.4%	0.00050	-64.3%	0.000969	-30.8%	0.000500	-64.3%
MW-9	0.13	0.022	-83.1%	0.076	-41.5%	0.015	-88.46%	0.025	-80.8%	0.0057	-95.62%	0.0084	-93.54%	0.0082	-93.7%	0.0088	-93.2%	0.00472	-96.4%	0.00190	-98.5%	0.00740	-94.3%
MW-13M	0.21	0.10	-52.4%	0.064	-69.5%	0.058	-72.38%	0.081	-61.4%	0.079	-62.38%	0.13	-38.10%	0.075	-64.3%	0.081	-61.4%	0.00050	-99.8%	0.000417	-99.8%	0.0201	-90.4%
MW-15	0.0063	0.00050	-92.1%	0.00050	-92.1%	0.00050	-92.06%	0.00050	-92.1%	0.00050	-92.06%	0.00050	-92.06%	0.00050	-92.1%	0.00050	-92.1%	0.0720	+1042.9%	0.00168	-73.3%	0.000818	-87.0%
MW-16	0.0014	0.00049	-65.0%	0.00054	-61.4%	0.00054	-61.43%	0.00050	-64.3%	0.00050	-64.29%	0.00050	-64.29%	0.00050	-64.3%	0.00050	-64.3%	0.00050	-64.3%	0.00050	-64.3%	0.000500	-64.3%
MW-19	0.00095	0.00050	-47.4%	0.00050	-47.4%	0.00050	-47.37%	0.00050	-47.4%	0.00050	-47.37%	0.00050	-47.37%	0.00050	-47.4%	0.00050	-47.4%	0.00050	-47.4%	0.00050	-47.4%	0.000500	-47.4%
MW-20	0.0050	0.0035	-30.0%	0.0045	-10.0%	0.0037	-26.00%	0.0057	+14.0%	0.0042	-16.00%	0.0035	-30.00%	0.0020	-60.0%	0.0011	-78.0%	0.00141	-71.8%	0.00268	-46.4%	0.00207	-58.6%
MW-24	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.000500	None
PW-1	0.022	0.0093	-57.7%	0.0015	-93.2%	0.0016	-92.73%	0.0017	-92.3%	0.0015	-93.18%	0.0048	-78.18%	0.0034	-84.5%	0.00050	-97.7%	0.0162	-26.4%	0.0137	-37.7%	0.000500	-97.7%
PW-2	2.9	2.0	-31.0%	1.0	-65.5%	1.4	-51.72%	2.7	-6.9%	3.1	+6.9%	NA		2.1	-27.6%	0.98	-66.2%	0.615	-78.8%	1.04	-64.1%	0.903	-68.9%
KIPER	9.7	15	+54.6%	11	+13.4%	14	+44.3%	10	+3.1%	8.8	-9.28%	11	+13.4%	8.8	-9.3%	10	+3.1%	8.40	-13.4%	7.95	-18.0%	6.67	-31.2%
% Change Avg			-18.3%		-30.0%		-29.6%		6.9%		68.0%		42.2%		-28.5%		-44.6%		33.4%		6.1%		-29.8%

Notes:
TW-6 - Baseline is from May 2012 RPI sample due to anomalous data from ESC June 2012 results
Change* - Percent difference from values reported in June 2012
N/A - Not Available or Not Applicable
0.005 - Estimated as 0.5 x reporting limit (e.g. <0.010 = 0.0050)
0.13 -Detected values are indicated in bold
Values exceeding the MCL (or, if no MCL is established, the tap water RSL) are shaded yellow
-80% - Decreasing concentration
97.8% - Increasing Concentration

Table 5
Trend Analyses for TCE, Cis-DCE and VC, 2012-2016
RBTC LDB #1, Leitchfield, Kentucky
Amec Foster Wheeler Project No. 6251-16-1024

	cis-1,2-Dichloroethene (cis-1,2-DCE)																					
Sample Date	MCL Jun-12	0.07 Dec-12	mg/L Change*	Feb-13	Change*	Jun-13	Change*	May-14	Change*	Aug-14	Change*	Oct-14	Change*	Feb-15	Change*	May-15	Change*	Sep-15	Change*	Nov-15	Change*	Mar-16	Change*
BOS-100 Monitoring Wells Primary Source Area																						
MW-11A	3.3	2.0	-39.4%	3.0	-9.1%	2.7	-18.2%	0.18	-94.5%	0.23	-93.0%	0.21	-93.6%	0.19	-94.2%	0.21	-93.6%	0.235	-92.9%	0.268	-91.9%	0.27	-91.8%
MW-11B	5.0	0.14	-97.2%	0.071	-98.6%	0.069	-98.6%	0.097	-98.1%	0.12	-97.6%	0.81	-83.8%	0.048	-99.0%	0.61	-87.8%	0.0885	-98.2%	0.131	-97.4%	0.0342	-99.3%
MW-12A	5.9	0.032	-99.5%	0.068	-98.8%	0.20	-96.6%	0.37	-93.7%	0.33	-94.4%	0.26	-95.6%	0.28	-95.3%	0.52	-91.2%	0.279	-95.3%	0.382	-93.5%	0.53	-91.0%
MW-12B	16	0.43	-97.3%	0.37	-97.7%	0.42	-97.4%	1.7	-89.4%	1.7	-89.4%	2.3	-85.6%	1.5	-90.6%	1.8	-88.8%	1.80	-88.8%	1.72	-89.3%	0.855	-94.7%
MW-25	0.78	0.079	-89.9%	0.073	-90.6%	0.12	-84.6%	0.073	-90.6%	0.12	-84.6%	0.082	-89.5%	0.034	-95.6%	0.039	-95.0%	0.0358	-95.4%	0.0292	-96.3%	0.0289	-96.3%
MW-26	10	0.064	-99.4%	0.075	-99.3%	0.065	-99.4%	0.097	-99.0%	0.11	-98.9%	0.098	-99.0%	0.11	-98.9%	0.084	-99.2%	0.104	-99.0%	0.0860	-99.1%	0.0982	-99.0%
MW-27	12	0.18	-98.5%	0.20	-98.3%	0.18	-98.5%	0.36	-97.0%	1.0	-91.7%	2.8	-76.7%	1.9	-84.2%	0.35	-97.1%	0.380	-96.8%	0.308	-97.4%	0.297	-97.5%
MW-28	0.027	0.001	-96.4%	0.0016	-94.1%	0.0032	-88.1%	0.0017	-93.7%	0.0023	-91.5%	0.0012	-95.6%	0.0041	-84.8%	0.0019	-93.0%	0.00265	-90.2%	0.00100	-96.3%	0.00591	-78.1%
TW-5	N/A	0.042	N/A	0.045	N/A	0.057	N/A	0.10	N/A	0.13	N/A	0.092	N/A	0.11	N/A	0.17	N/A	0.172	N/A	0.179	N/A	0.157	N/A
TW-6*	7.0	1.1	-84.3%	1.1	-84.3%	1.5	-78.6%	0.59	-91.6%	2.1	-70.0%	0.22	-96.9%	0.091	-98.7%	3.3	-52.9%	0.492	-93.0%	0.448	-93.6%	0.153	-97.8%
TW-9	12	0.18	-98.5%	0.17	-98.6%	0.53	-95.6%	0.22	-98.2%	1.4	-88.3%	N/A	N/A	0.76	N/A	0.82	N/A	0.346	N/A	0.398	N/A	0.159	N/A
TW-10	10	0.17	-98.3%	0.25	-97.5%	0.36	-96.4%	0.022	-99.8%	0.032	-99.7%	0.063	-99.4%	0.021	-99.8%	0.039	-99.6%	0.0565	-99.4%	0.0579	-99.4%	0.0674	-99.3%
TW-11	17	0.0035	-100.0%	0.025	-99.9%	0.012	-99.9%	0.0028	-100.0%	0.0033	-100.0%	0.0042	-100.0%	0.028	-99.8%	0.0031	-100.0%	0.00488	-100.0%	0.00167	-100.0%	0.00134	-100.0%
TW-12	5.8	0.037	-99.4%	0.12	-97.9%	0.46	-92.1%	0.58	-90.0%	0.54	-90.7%	0.51	-91.2%	0.57	-90.2%	0.82	-85.9%	0.588	-89.9%	0.646	-88.9%	0.906	-84.4%
TW-13	16	0.82	-94.9%	1.6	-90.0%	1.6	-90.0%	0.85	-94.7%	0.62	-96.1%	0.21	-98.7%	0.77	-95.2%	0.48	-97.0%	0.774	-95.2%	0.570	-96.4%	0.419	-97.4%
TW-14	N/A	0.079	N/A	0.52	N/A	0.48	N/A	2.0	N/A	0.56	N/A	0.89	N/A	0.52	N/A	0.30	N/A	1.03	N/A	0.456	N/A	0.14	N/A
% Change Avg			-92.3%		-89.6%		-88.1%		-95.0%		-91.8%		-92.7%		-94.3%		-90.8%		-94.9%		-95.3%		-94.4%
Biostimulation Monitoring Wells Secondary Source Area																						
MW-5	9.1	18	+97.8%	32	+251.8%	30	229.7%	5.6	-38.5%	1.3	-85.7%	1.8	-80.2%	2.6	-71.4%	2.6	-71.4%	2.00	-78.0%	3.49	-61.6%	2.06	-77.4%
MW-8	0.71	2.9	+308.5%	1.4	+97.2%	1.6	125.4%	2.0	+181.7%	1.0	+40.8%	0.90	+26.8%	0.022	-96.9%	0.24	-66.2%	0.00995	-98.6%	0.00723	-99.0%	0.00237	-99.7%
MW-17	4.1	12	+192.7%	14	+241.5%	20	387.8%	0.025	-99.4%	2.3	-43.9%	1.9	-53.7%	0.96	-76.6%	3.1	-24.4%	3.22	-21.5%	3.12	-23.9%	2.61	-36.3%
MW-22	0.83	2.8	+237.3%	4.6	+454.2%	6.0	622.9%	1.6	+92.8%	0.11	-86.7%	0.10	-88.0%	0.060	-92.6%	0.059	-92.9%	0.169	-79.6%	0.0110	-98.7%	0.0173	-97.9%
% Change Avg			209.1%		261.1%		341.4%		34.2%		-43.9%		-48.8%		-84.4%		-63.7%		-69.4%		-70.8%		-77.8%
Biostimulation Monitoring Wells Plume Area																						
MW-4	1.5	1.1	-26.7%	0.88	-41.3%	0.029	-98.1%	0.0025	-99.8%	0.0024	-99.8%	0.0027	-99.8%	0.0010	-99.9%	0.00071	-100.0%	0.000967	-99.9%	0.000942	-99.9%	0.0021	-99.9%
MW-7	0.76	0.49	-35.5%	0.052	-93.2%	0.0079	-99.0%	0.00079	-99.9%	0.00042	-99.9%	0.00048	-99.9%	0.0013	-99.8%	0.50	-34.2%	0.439	-42.2%	0.00160	-99.8%	0.229	-69.9%
MW-10	0.046	0.024	-47.8%	0.038	-17.4%	0.024	-47.8%	0.013	-71.7%	0.012	-73.9%	0.0053	-88.5%	0.0092	-80.0%	0.0057	-87.6%	0.00690	-85.0%	0.00552	-88.0%	0.00294	-93.6%
MW-13	2.0	0.62	-69.0%	0.90	-55.0%	0.70	-65.0%	0.016	-99.2%	0.025	-98.8%	0.0063	-99.7%	0.0035	-99.8%	0.034	-98.3%	0.00177	-99.9%	0.000731	-100.0%	0.121	-94.0%
MW-14	0.035	0.041	+17.1%	0.035	None	0.023	-34.3%	0.021	-40.0%	0.012	-65.7%	0.014	-58.9%	0.011	-68.6%	0.0016	-95.4%	0.0110	-68.6%	0.00381	-89.1%	0.0123	-64.9%
MW-18	0.0011	0.00050	-54.5%	0.00050	-54.5%	0.00050	-54.5%	0.00040	-63.6%	0.00038	-65.5%	0.00033	-70.0%	0.00051	-53.6%	0.00040	-63.6%	0.00100	-9.1%	0.000468	-57.5%	0.000407	-63.0%
MW-21	0.080	0.083	+3.8%	0.12	+50.0%	0.17	+112.5%	0.93	+1062.5%	1.3	+1525.0%	0.024	-70.0%	0.014	-82.5%	0.033	-58.8%	0.00683	-91.5%	0.00673	-91.6%	0.0252	-68.5%
MW-23	0.068	0.77	+1032.4%	0.89	+914.7%	0.22	+223.5%	0.13	+91.2%	0.055	-19.1%	0.047	-30.9%	0.024	-64.7%	0.17	+150.0%	0.0652	-4.1%	0.0134	-80.3%	0.0177	-74.0%
% Change Avg			102.5%		100.5%		-7.8%		84.9%		125.3%		-77.2%		-81.1%		-48.5%		-62.5%		-88.3%		-78.5%
Miscellaneous/Baseline Wells																						
MW-1	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.000474	None	0.000500	None
MW-2	0.053	0.12	+126.4%	0.28	+428.3%	0.26	+390.6%	0.26	+390.6%	0.37	+598.1%	0.45	+749.1%	0.028	-47.2%	0.088	+66.0%	0.122	+130.2%	0.263	+396.2%	0.173	+226.4%
MW-2M	0.83	0.33	-60.2%	0.73	-12.0%	0.40	-51.8%	0.20	-75.9%	1.9	+128.9%	1.9	+128.9%	1.7	+104.8%	0.91	+9.6%	0.857	+3.3%	0.775	-6.6%	0.494	-40.5%
MW-3	0.11	0.21	+90.9%	0.48	+336.4%	0.13	+18.2%	0.45	+309.1%	0.76	+590.9%	0.066	-40.0%	0.54	+390.9%	0.11	None	0.274	+149.1%	0.122	None	0.216	+96.4%
MW-5M	0.71	0.31	-56.3%	1.2	+69.0%	1.0	+40.8%	2.2	+209.9%	3.6	+407.0%	0.61	-14.1%	2.4	+238.0%	2.4	+238.0%	2.57	+262.0%	2.09	+194.4%	2.81	+295.8%
MW-6	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None	0.000500	None
MW-6M	0.0011	0.0011	None	0.00093	-15.5%	0.0010	-9.1%	0.00082	-25.5%	0.0010	-9.1%	0.0011	None	0.00070	-36.4%	0.0011	None	0.00122	+10.9%	0.000967	None	0.00248	+125.5%
MW-9	1.5	0.99	-34.0%	0.69	-54.0%	0.71	-52.7%	0.44	-70.7%	0.56	-62.7%	0.50	-66.7%	0.61	-59.3%	0.24	-84.0%	0.485	-67.7%	0.156	-89.6%	0.098	-93.5%
MW-13M	0.12	0.058	-51.7%	0.14	+16.7%	0.12	0.0%	0.11	-8.3%	0.076	-36.7%	0.11	-8.3%	0.11	-8.3%	0.096	-20.0%	0.0233	-80.6%	0.00100	-99.2%	0.0124	-89.7%
MW-15	0.0032	0.00050	-84.4%	0.00050	-84.4%	0.00050	-84.4%	0.00050	-84.4%	0.00037	-88.4%	0.00050	-84.4%	0.00050	-84.4%	0.00032	-90.0%	0.0807	+2421.9%	0.00160	-50.0%	0.000992	-69.0%
MW-16	0.0062	0.0031	-50.0%	0.0031	-50.0%	0.0018	-71.0%	0.0012	-80.6%	0.00073	-88.2%	0.00046	-92.6%	0.0023	-62.9%	0.0036	-41.9%	0.00110	-82.3%	0.00114	-81.6%	0.00339	-45.3%
MW-19	0.00050	0.00092	+84.0%	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.000320	None	0.00100	None	0.0003	-40.0%
MW-20	0.013	0.0078	-40.0%	0.011	-15.4%	0.0052	-60.0%	0.012	-7.7%	0.012	-7.7%	0.010	-23.1%	0.0036	-100.9%	0.0030	-76.9%	0.00370	-71.5%	0.00466	-64.2%	0.00765	-41.2%
MW-24	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None	0.000500	None
PW-1	0.039	0.046	+17.9%	0.0068	-82.6%	0.024	-38.5%	0.010	-74.4%	0.12	+207.7%	0.086	+120.5%	0.11	-38.7%	0.0014	-96.4%	0.0362	-7.2%	0.0341	-12.6%	0.00215	-94.5%
PW-2	1.7	1.5	-11.8%	1.0	-41.2%	0.86	-49.4%	1.3	-23.5%	1.2	-29.4%	NA		1.2	-29.4%	1.5	-11.8%	1.19	-30.0%	0.677	-60.2%	0.637	-62.5%
KPER	0.72	0.97	+34.7%	0.88	+22.2%	1.0	+38.9%	0.71	-1.4%	0.68	-5.6%	0.86	+19.4%	0.69	-4.2%	1.1	+52.8%	0.661	-8.2%	0.633	-12.1%	0.533	-26.0%
% Change Avg			-2.6%		39.8%		5.5%		35.2%		123.5%		62.6%		20.2%		-5.0%		202.3%		10.4%		10.1%

Notes:

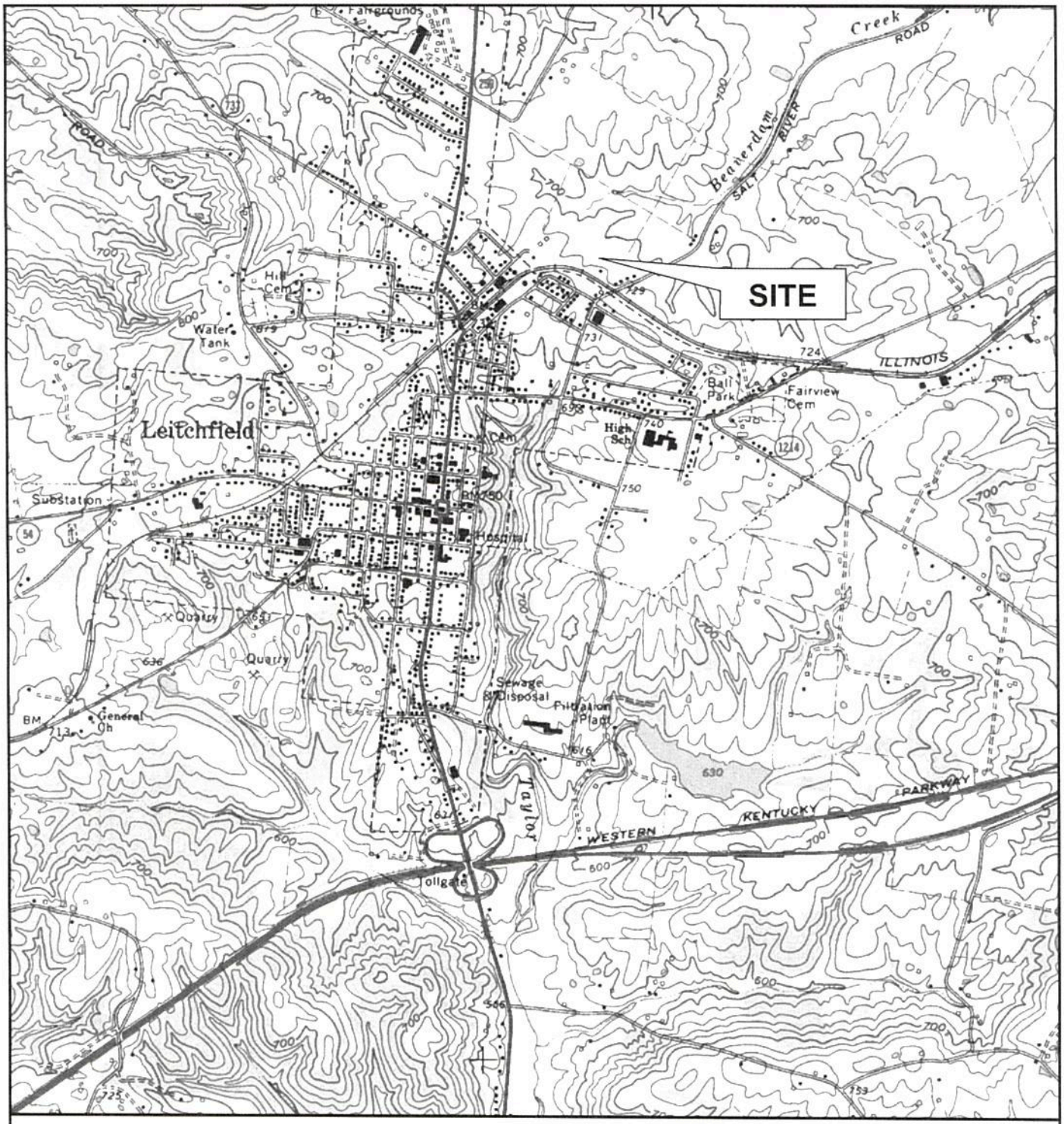
TW-6 - Baseline is from May 2012 RPI sample due to anomalous data from ESC June 2012 results
Change* - Percent difference from values reported in June 2012
N/A - Not Available or Not Applicable
0.005 - Estimated as 0.5 x reporting limit (e.g. <0.010 = 0.0050)
0.13 -Detected values are indicated in bold
Values exceeding the MCL (or, if no MCL is established, the tap water RSL) are shaded yellow
-80% - Decreasing concentration
97.8% - Increasing Concentration

Table 5
Trend Analyses for TCE, Cis-DCE and VC, 2012-2016
RBTC LDB #1, Leitchfield, Kentucky
Amec Foster Wheeler Project No. 6251-16-1024

	Vinyl Chloride (VC)																			
Sample Date	MCL Jun-12	0.002 Dec-12	mg/L Change*	Feb-13	Change*	Jun-13	Change*	May-14	Change*	Aug-14	Change*	Oct-14	Change*	Feb-15	Change*	May-15	Change*	Sep-15	Change*	Nov-15	Change*
	BOS-100 Monitoring Wells Primary Source Area																			
MW-11A	0.50	0.125	-75.0%	0.25	-50.0%	0.036	-92.8%	0.024	-95.2%	0.022	-95.6%	0.015	-97.0%	0.017	-96.6%	0.017	-96.6%	0.0178	-96.4%	0.0221	-95.6%
MW-11B	0.50	0.027	-94.6%	0.021	-95.8%	0.011	-97.8%	0.011	-97.8%	0.014	-97.2%	0.040	-92.0%	0.0070	-98.6%	0.023	-95.4%	0.0115	-97.7%	0.0135	-97.3%
MW-12A	0.50	0.0062	-98.8%	0.020	-96.0%	0.019	-96.2%	0.015	-97.0%	0.018	-96.4%	0.020	-96.0%	0.020	-96.0%	0.034	-93.2%	0.0161	-96.8%	0.0232	-95.4%
MW-12B	2.0	0.026	-98.7%	0.079	-96.1%	0.24	-88.0%	0.25	-87.5%	0.25	-87.5%	0.47	-76.5%	0.32	-84.0%	0.33	-83.5%	0.253	-87.4%	0.266	-86.7%
MW-25	0.0028	0.0050	+78.6%	0.0025	-10.7%	0.0016	-42.9%	0.010	+257.1%	0.010	+257.1%	0.010	+257.1%	0.00067	-76.1%	0.0050	+78.6%	0.0100	+257.1%	0.00100	-64.3%
MW-26	0.50	0.0087	-98.3%	0.013	-97.4%	0.016	-96.8%	0.011	-97.8%	0.016	-96.8%	0.016	-96.8%	0.014	-97.2%	0.015	-97.0%	0.0152	-97.0%	0.0145	-97.1%
MW-27	1.6	0.040	-97.5%	0.052	-96.8%	0.052	-96.8%	0.11	-93.1%	0.21	-86.9%	0.38	-76.3%	0.60	-62.5%	0.15	-90.6%	0.334	-79.1%	0.293	-81.7%
MW-28	0.0016	0.0010	-37.5%	0.0033	+106.3%	0.0017	+6.3%	0.0012	-25.0%	0.0034	112.5%	0.00060	-62.5%	0.0011	-31.3%	0.00060	-62.5%	0.000922	-42.4%	0.00100	-37.5%
TW-5	N/A	0.0050	N/A	0.0050	N/A	0.0023	N/A	0.014	N/A	0.021	N/A	0.0088	N/A	0.011	N/A	0.026	N/A	0.0219	N/A	0.0278	N/A
TW-6*	0.045	0.0050	-88.9%	0.0125	-72.2%	0.025	-44.4%	0.25	+455.6%	0.25	+455.6%	0.025	-44.4%	0.025	-44.4%	0.025	-44.4%	0.250	+455.6%	0.00500	-88.9%
TW-9	0.98	0.022	-97.8%	0.00050	-99.9%	0.012	-98.8%	0.0091	-99.1%	0.032	-96.7%	N/A	N/A	0.018	N/A	0.024	N/A	0.00998	N/A	0.0115	N/A
TW-10	1.25	0.011	-99.1%	0.021	-102.1%	0.0095	-99.2%	0.0062	-99.5%	0.0093	-99.3%	0.0098	-99.2%	0.0063	-99.5%	0.012	-99.0%	0.0114	-99.1%	0.0114	-99.1%
TW-11	0.50	0.00032	-99.9%	0.00070	-100.1%	0.00050	-99.9%	0.00050	-99.9%	0.00050	-99.9%	0.00063	-99.9%	0.00038	-99.9%	0.00057	-99.9%	0.00126	-99.7%	0.000694	-99.9%
TW-12	0.50	0.0084	-98.3%	0.025	-95.0%	0.021	-95.8%	0.034	-93.2%	0.023	-95.4%	0.035	-93.0%	0.034	-93.2%	0.044	-91.2%	0.0273	-94.5%	0.0398	-92.0%
TW-13	2.8	0.13	-95.4%	0.14	-95.0%	0.082	-97.1%	0.084	-97.0%	0.054	-98.1%	0.068	-97.6%	0.066	-97.6%	0.049	-98.3%	0.0695	-97.5%	0.0692	-97.5%
TW-14	N/A	0.052	N/A	0.19	N/A	0.17	N/A	1.0	N/A	0.25	N/A	0.47	N/A	0.18	N/A	0.096	N/A	0.417	N/A	0.321	N/A
% Change Avg			-78.7%		-71.5%		-81.4%		-26.4%		-16.0%		-59.5%		-82.8%		-74.9%		-21.1%		-87.1%
	Biostimulation Monitoring Wells Secondary Source Area																			
MW-5	0.40	0.29	-27.5%	0.50	+25.0%	3.4	+750.0%	1.4	+250.0%	0.61	+52.5%	0.125	-68.8%	1.7	+325.0%	1.3	+225.0%	1.03	157.5%	1.79	+347.5%
MW-8	0.125	0.036	-71.2%	0.023	-103.2%	0.038	-69.6%	0.083	-33.6%	0.10	-20.0%	0.24	+92.0%	0.025	-80.0%	0.057	-54.4%	0.00862	-93.1%	0.00284	-97.7%
MW-17	0.41	0.54	+31.7%	1.2	+192.7%	1.0	+143.9%	0.0094	-97.7%	0.48	+17.1%	0.55	+34.1%	0.27	-34.1%	0.58	+41.5%	0.737	+79.8%	0.804	+96.1%
MW-22	0.011	0.035	+218.2%	0.091	+727.3%	0.098	+790.9%	0.56	+4990.9%	0.17	+1445.5%	0.18	+1536.4%	0.0063	-42.7%	0.0061	-44.5%	0.0107	-2.7%	0.00100	-90.9%
% Change Avg			37.8%		210.4%		403.8%		1277.4%		373.8%		398.4%		42.0%		41.9%		35.4%		63.7%
	Biostimulation Monitoring Wells Plume Area																			
MW-4	0.29	0.13	-55.2%	0.18	-37.9%	0.0069	-97.6%	0.00050	-99.8%	0.00062	-99.8%	0.0010	-99.7%	0.00075	-99.7%	0.00063	-99.8%	0.000710	-99.8%	0.000486	-99.8%
MW-7	0.019	0.051	+168.4%	0.0039	-79.5%	0.0053	-72.1%	0.0016	-91.6%	0.00098	-94.8%	0.0016	-91.6%	0.0019	-90.0%	0.25	+1215.8%	0.394	+1973.7%	0.0398	+109.5%
MW-10	0.00050	0.0016	+220.0%	0.0040	+700.0%	0.0024	+380.0%	0.00070	+40.0%	0.00050	None	0.00040	-20.0%	0.00066	+32.0%	0.00078	+56.0%	0.000400	-20.0%	0.000330	-34.0%
MW-13	0.031	0.046	+48.4%	0.12	+287.1%	0.071	+129.0%	0.013	-58.1%	0.025	-19.4%	0.0099	-68.1%	0.0063	-79.7%	0.041	+32.3%	0.0121	-61.0%	0.00118	-96.2%
MW-14	0.0056	0.0021	-62.5%	0.0023	-58.9%	0.0027	-51.8%	0.0017	-69.6%	0.00090	-83.9%	0.0015	-73.2%	0.0020	-64.3%	0.00036	-93.6%	0.00103	-81.6%	0.00100	-82.1%
MW-18	0.00035	0.00050	+42.9%	0.00050	+42.9%	0.00050	+42.9%	0.00058	+65.7%	0.00091	+160.0%	0.0017	+385.7%	0.00059	+68.6%	0.00069	+97.1%	0.000343	-2.0%	0.00100	+185.7%
MW-21	0.00050	0.0034	+580.0%	0.0051	+920.0%	0.0026	+420.0%	0.012	+2300.0%	0.23	+45900.0%	0.034	+6700.0%	0.082	+16300.0%	0.064	+12700.0%	0.0102	+1940.0%	0.0255	+5000.0%
MW-23	0.00055	0.0050	+809.1%	0.0013	+136.4%	0.0015	+172.7%	0.24	+43536.4%	0.12	+21718.2%	0.093	+16809.1%	0.073	+13172.7%	0.11	+19900.0%	0.102	+18445.5%	0.238	+43172.7%
% Change Avg			218.9%		238.7%		115.4%		5702.9%		9640.0%		2942.8%		3654.9%		4226.0%		2761.9%		6019.5%
	Miscellaneous/Baseline Wells																			
MW-1	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None
MW-2	0.0045	0.012	+166.7%	0.072	+1500.0%	0.088	+1855.6%	0.046	+922.2%	0.024	+433.3%	0.045	+900.0%	0.022	+388.9%	0.050	+1011.1%	0.101	+2144.4%	0.143	+3077.8%
MW-2M	0.025	0.0079	-68.4%	0.020	-20.0%	0.0048	-80.8%	0.0055	-78.0%	0.047	+88.0%	0.067	+168.0%	0.049	+96.0%	0.025	None	0.0345	+38.0%	0.0296	None
MW-3	0.0076	0.042	+452.6%	0.082	+978.9%	0.12	+1478.9%	0.13	+1610.5%	0.24	+3057.9%	0.080	+952.6%	0.24	+3057.9%	0.45	+5821.1%	0.207	+2623.7%	0.142	+1768.4%
MW-5M	0.010	0.0079	-21.0%	0.032	+220.0%	0.0017	-83.0%	0.021	+110.0%	0.039	+290.0%	0.50	+4900.0%	0.012	+20.0%	0.125	+1150.0%	0.0361	+261.0%	0.00100	-90.0%
MW-6	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None
MW-8M	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None
MW-9	1.1	0.69	-37.3%	1.2	+9.1%	0.97	-11.8%	0.88	-20.0%	0.89	-19.1%	0.84	-23.6%	0.79	-28.2%	0.63	-42.7%	1.20	+9.1%	0.546	-50.4%
MW-13M	0.0020	0.0016	-20.0%	0.027	+1250.0%	0.0036	+80.0%	0.00051	-74.5%	0.00085	-57.5%	0.00067	-66.5%	0.0012	-40.0%	0.00031	-84.5%	0.00100	-50.0%	0.00100	-50.0%
MW-15	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00038	None	0.00150	None	0.00100	None
MW-16	0.00080	0.00050	-37.5%	0.00050	-37.5%	0.00050	-37.5%	0.00050	-37.5%	0.00050	-37.5%	0.00050	-37.5%	0.00050	-37.5%	0.00047	-41.3%	0.00100	+25.0%	0.00100	+25.0%
MW-19	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None
MW-20	0.0016	0.00045	-71.9%	0.00075	-53.1%	0.0025	+56.3%	0.0025	+56.3%	0.0079	+393.8%	0.0046	+187.5%	0.00050	-68.8%	0.00050	-68.8%	0.00200	+25.0%	0.00100	-37.5%
MW-24	0.00050	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00050	None	0.00100	None	0.00100	None
PW-1	0.0073	0.0083	+13.7%	0.0027	-63.0%	0.0070	-4.1%	0.0082	+12.3%	0.042	+475.3%	0.037	+406.8%	0.048	+557.5%	0.0025	-65.8%	0.0253	+246.6%	0.0193	+164.4%
PW-2	0.029	0.028	-3.4%	0.023	-20.7%	0.026	-10.3%	0.050	+72.4%	0.025	-13.8%	NA		0.023	-20.7%	0.022	-24.1%	0.0337	+16.2%	0.0253	-12.8%
KIPER	0.014	0.025	+78.6%	0.030	+114.3%	0.030	+114.3%	0.018	+28.6%	0.050	+257.1%	0.018	+28.6%	0.00050	-96.4%	0.125	+792.9%	0.250	+1685.7%	0.00100	-92.9%
% Change Avg			41.1%		352.5%		305.2%		236.6%		442.5%		741.6%		348.1%		844.8%		638.6%		470.2%

Notes:
TW-6 - Baseline is from May 2012 RPI sample due to anomalous data from ESC June 2012 results
Change* - Percent difference from values reported in June 2012
N/A - Not Available or Not Applicable
0.005 - Estimated as 0.5 x reporting limit (e.g. <0.010 = 0.0050)
0.13 -Detected values are indicated in bold
Values exceeding the MCL (or, if no MCL is established, the tap water RSL) are shaded yellow
-80% - Decreasing concentration
97.8% - Increasing Concentration

FIGURES



QUADRANGLE LOCATION

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE MAP, LEITCHFIELD, KENTUCKY, 1967

0 1000 2000
SCALE IN FEET

NORTH

amec foster wheeler

Environment & Infrastructure, Inc.
2456 Fortune Drive, Suite 100
Lexington, Kentucky 40509
Phone: (859) 255-3308

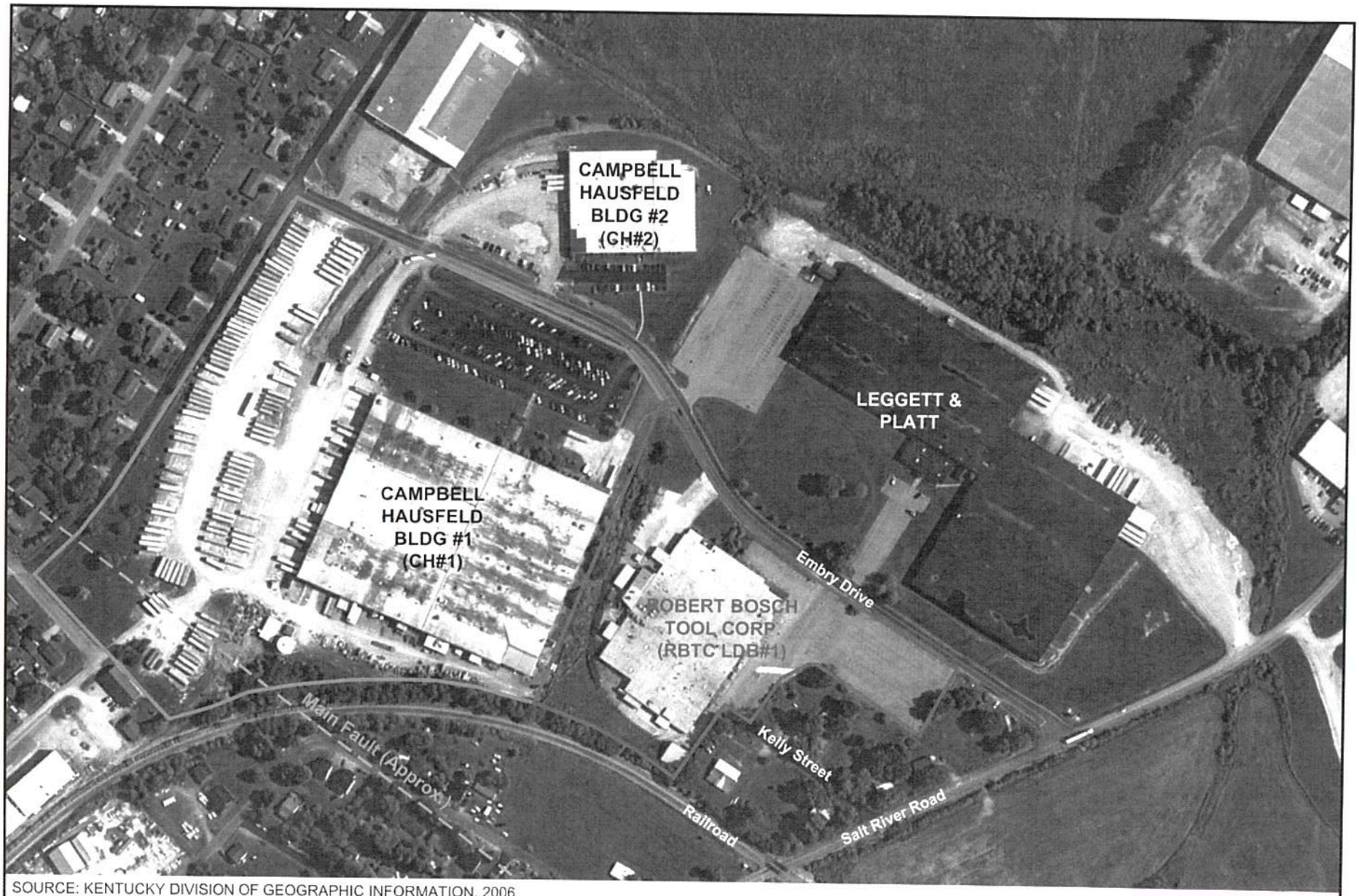
TOPOGRAPHIC MAP

ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY

PROJECT NUMBER: 6251-16-1024

SCALE	1" = 2000'
DATE	01/22/2015
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 1



SOURCE: KENTUCKY DIVISION OF GEOGRAPHIC INFORMATION, 2006

0 150 300
APPROX. SCALE IN FEET

NORTH

amec foster wheeler
Environment & Infrastructure, Inc.
2456 Fortune Drive, Suite 100
Lexington, Kentucky 40509
Phone: (859) 255-3308

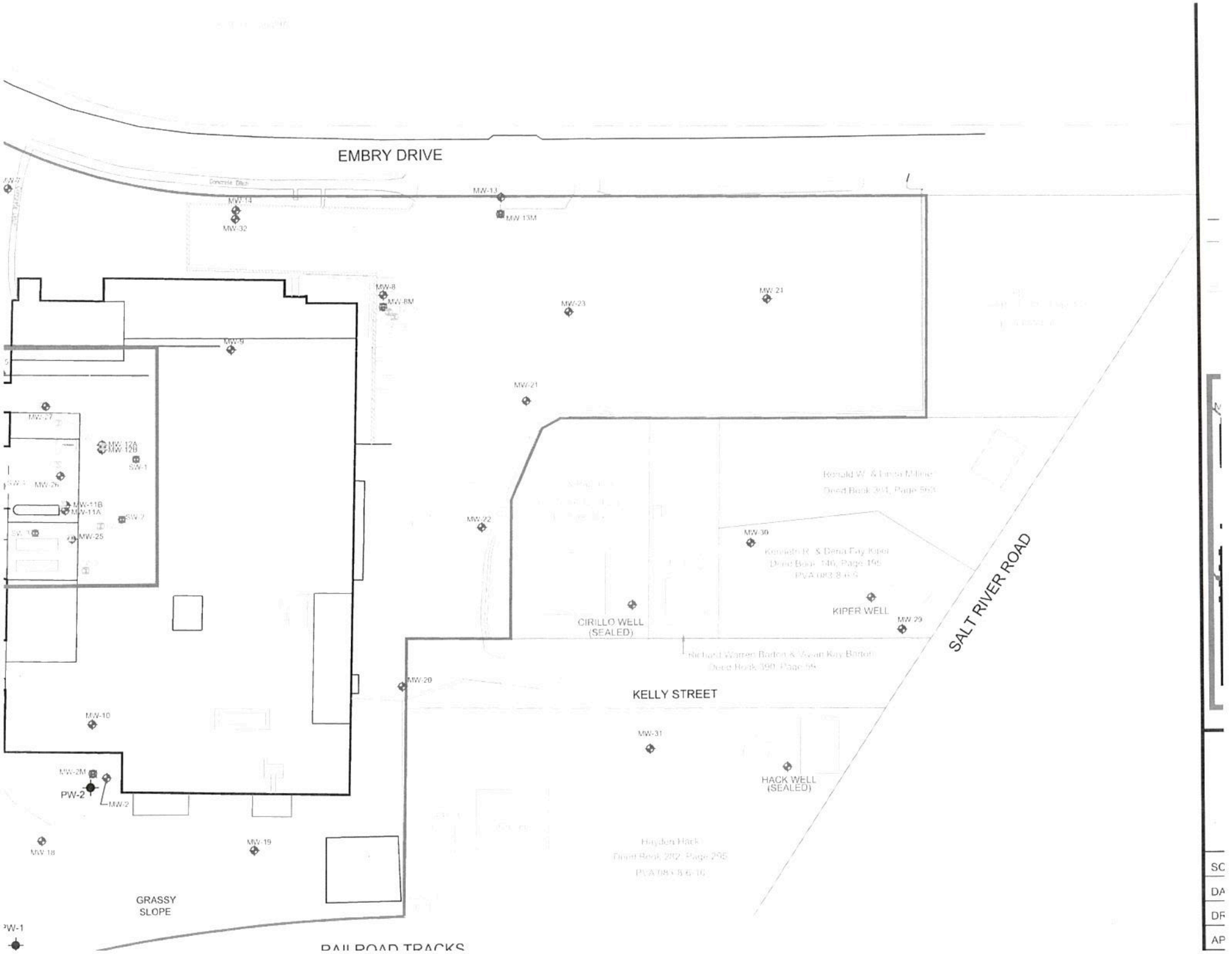
AERIAL PHOTOGRAPH

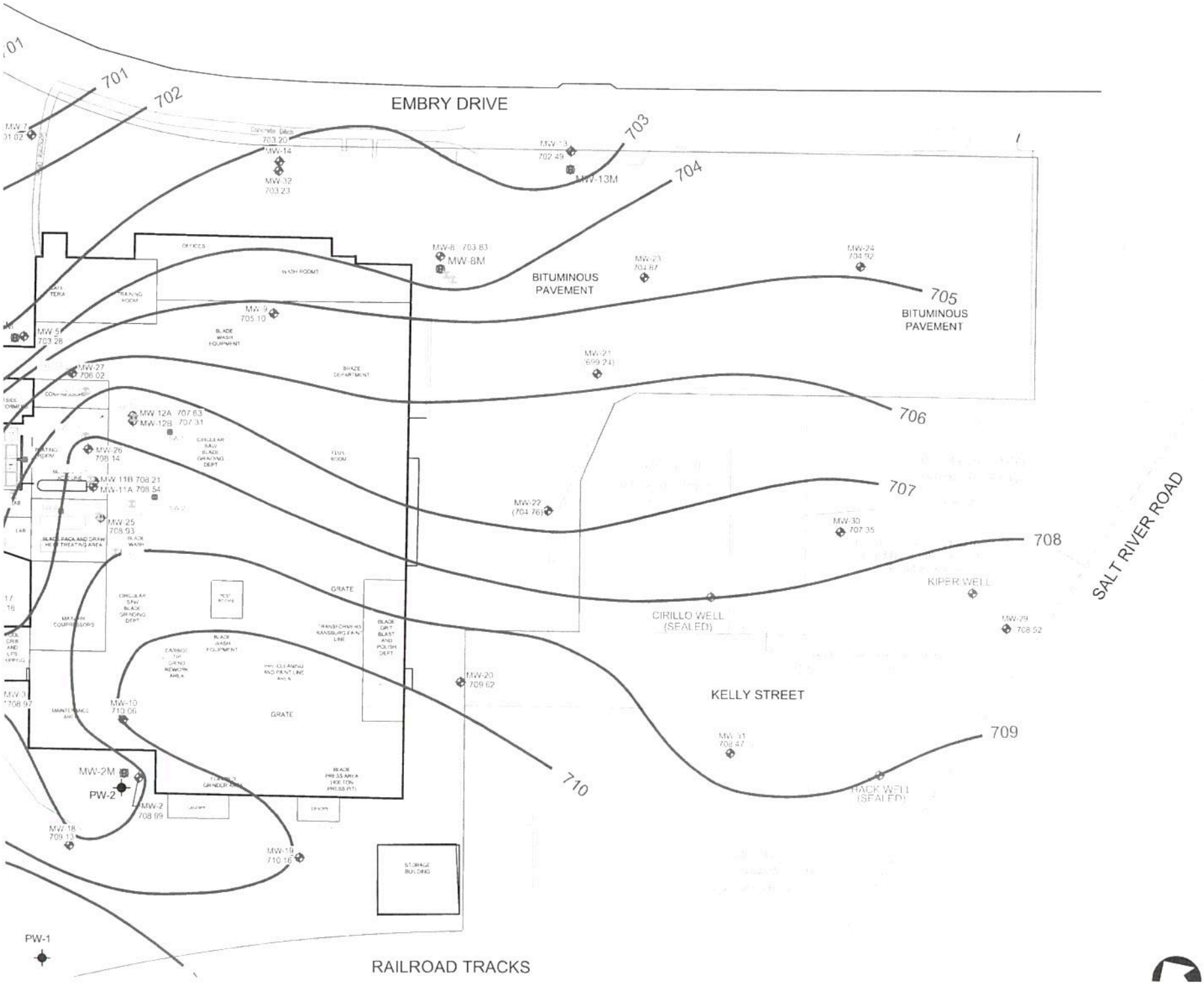
ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY

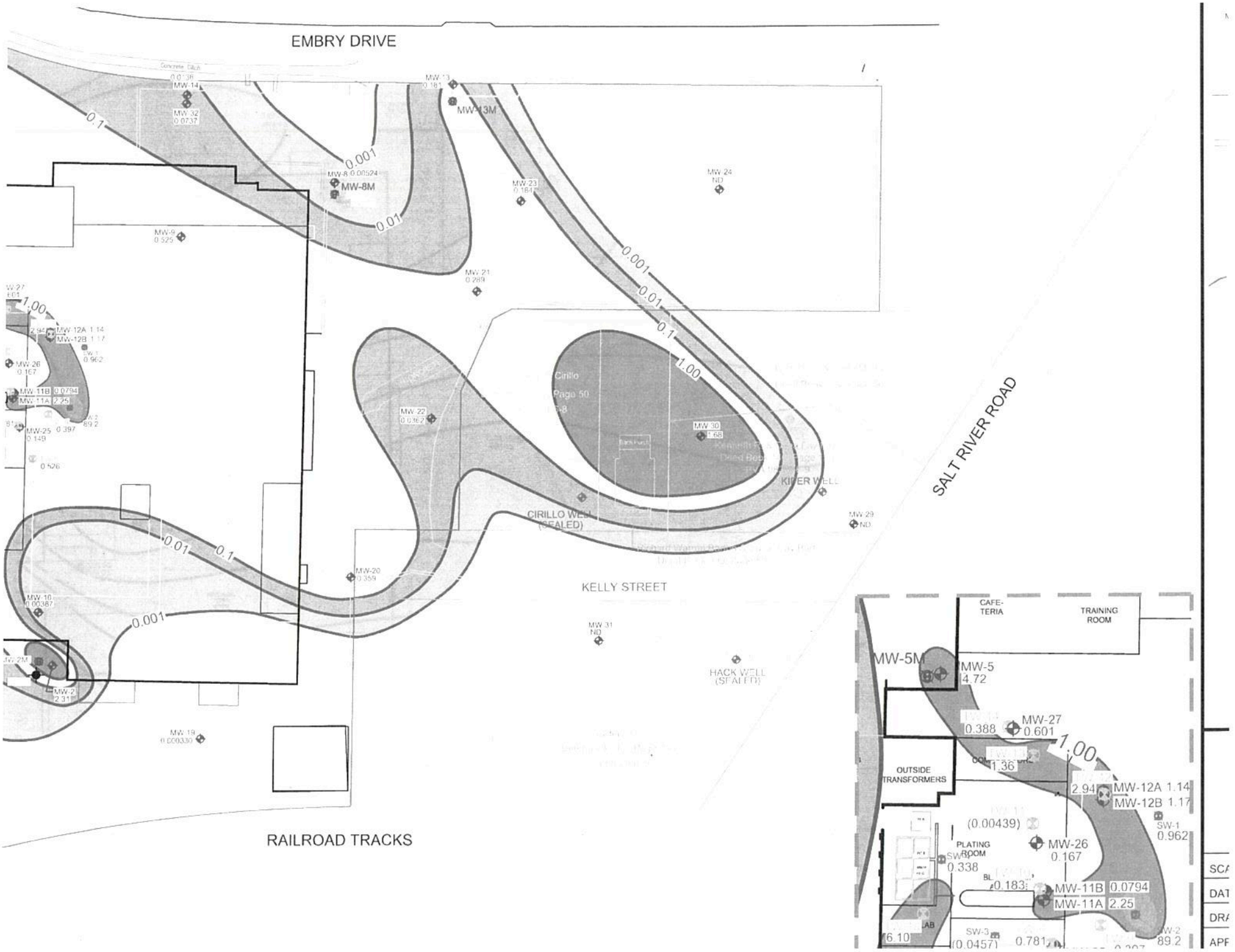
PROJECT NUMBER: 6251-16-1024

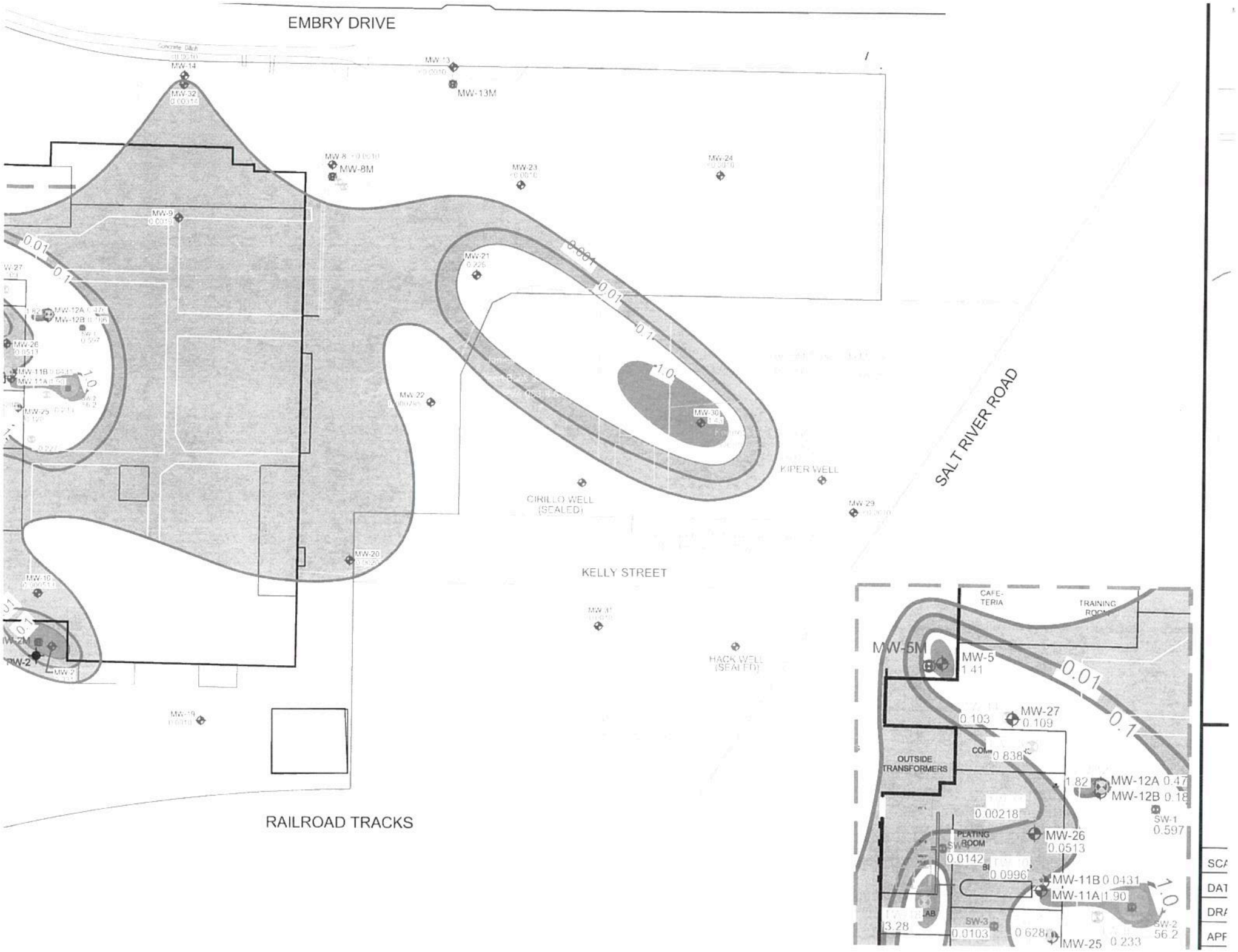
APPROX. SCALE	1" = 300'
DATE	01/22/2015
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 2


EMBRY DRIVE
MW-14
MW-32
MW-13
MW-13M
MW-8
MW-8M
MW-23
MW-21
MW-9
MW-21
MW-27
MW-12A
MW-12B
SW-1
MW-26
MW-11B
MW-11A
SW-2
MW-25
MW-22
MW-30
Ronald W. & Fanny Milone
Deed Book 393, Page 563
Kenneth R. & Dana Fay Piper
Deed Book 146, Page 195
PVA 083.8-6-5
CIRILLO WELL
(SEALED)
KIPER WELL
MW-29
SALT RIVER ROAD
Richard Warren Barton & Vivian Kay Barton
Deed Book 390, Page 96
MW-20
KELLY STREET
MW-10
MW-31
MW-2M
PW-2
MW-2
HACK WELL
(SEALED)
Hayden Hack
Deed Book 202, Page 295
PVA 083.8-6-16
MW-18
MW-19
GRASSY
SLOPE
PW-1
RAILROAD TRACKS


EMBRY DRIVE
701
702
703
704
705
706
707
708
709
710
MW-7
701.07
MW-14
703.20
MW-32
703.23
MW-13
702.49
MW-13M
MW-8 703.83
MW-8M
BITUMINOUS
PAVEMENT
MW-23
704.87
MW-24
704.92
BITUMINOUS
PAVEMENT
MW-9
705.10
MW-5
703.28
MW-27
706.02
MW-21
(699.24)
MW-12A 707.63
MW-12B 707.31
MW-26
708.14
MW-11B 708.21
MW-11A 708.54
MW-25
708.93
MW-22
(704.76)
MW-30
707.35
SALT RIVER ROAD
KIPER WELL
CIRILLO WELL
(SEALED)
MW-29
708.52
KELLY STREET
MW-20
709.62
MW-31
708.47
HACK WELL
(SEALED)
MW-3
708.97
MW-10
710.06
MW-2M
PW-2
MW-2
708.99
MW-18
709.13
MW-19
710.16
STORAGE
BUILDING
PW-1
RAILROAD TRACKS
GRATE
GRATE


EMBRY DRIVE
SALT RIVER ROAD
KELLY STREET
RAILROAD TRACKS
CIRILLO WELL (SEALED)
KIPER WELL
HACK WELL (SEALED)
Cirillo Page 50
MW-14
MW-32 0.0737
MW-13 0.181
MW-13M
MW-8 0.00524
MW-8M
MW-23 0.161
MW-24 ND
MW-9 0.529
MW-21 0.289
MW-22 0.0362
MW-30 1.68
MW-29 ND
MW-20 0.359
MW-31 ND
MW-10 0.00387
MW-19 0.000330
MW-26 0.167
MW-11B 0.0794
MW-11A 2.25
MW-25 0.397
MW-12A 1.14
MW-12B 1.17
SW-1 0.962
SW-2 89.2
0.526
0.1
0.001
0.01
1.00
CAFE-TERIA
TRAINING ROOM
MW-5M
MW-5 4.72
MW-27 0.601
0.388
1.36
OUTSIDE TRANSFORMERS
2.94
(0.00439)
PLATING ROOM
0.338
0.183
LAB
6.10
SW-3 (0.0457)
0.781
89.2


EMBRY DRIVE
MW-14
MW-32
MW-13
MW-13M
MW-8
MW-8M
MW-23
MW-24
MW-9
MW-21
MW-12A
MW-12B
MW-26
MW-11B
MW-11A
MW-25
MW-22
MW-30
KIPER WELL
SALT RIVER ROAD
CIRILLO WELL
(SEALED)
MW-29
MW-20
KELLY STREET
MW-10
MW-2M
RW-2
MW-2
MW-31
HACK WELL
(SEALED)
MW-19
RAILROAD TRACKS
0.01
0.1
1.0
CAFE-
TERIA
TRAINING
ROOM
MW-5M
MW-5
1.41
MW-27
0.109
0.103
OUTSIDE
TRANSFORMERS
0.838
1.82
MW-12A 0.47
MW-12B 0.18
SW-1
0.597
0.00218
PLATING
ROOM
MW-26
0.0513
0.0142
0.0996
MW-11B 0.0431
MW-11A 1.90
AB
3.28
SW-3
0.0103
0.628
MW-25 0.233
SW-2
56.2

July 24, 2012

Mr. Christopher Jung, P.G.
Superfund Branch
Division of Waste Management
200 Fair Oaks Lane
Frankfort, Kentucky 40601

RCVD AUG 14 2012

Subject: **Interim Status Report of Investigation – Offsite Properties**
Robert Bosch Tool Corporation
Leitchfield Division Building #1
410 Embry Drive, Leitchfield, Grayson County, Kentucky
Kentucky Agency Interest # 1579
AMEC Project 6251-12-1002

Dear Mr. Jung:

On behalf of Robert Bosch Tool Corporation (RBTC), AMEC Environment & Infrastructure, Inc. (AMEC) is pleased to submit this status report of our investigations at the RBTC Leitchfield Division Building #1, located at 410 Embry Drive in Leitchfield, Grayson County, Kentucky (AI # 1579). The purpose of the services described in this report was to further assess recognized environmental conditions previously identified at the site and on neighboring properties to the east.

The services documented in this report followed the recommendations in AMEC's *Interim Status Report of Corrective Action and Remedial Action Investigation, Robert Bosch Tool Corporation, Leitchfield Division Building #1, Leitchfield, Kentucky* dated April 23, 2012, approved by April Webb on April 26, 2012.

We appreciate your assistance in moving through the corrective action process at this site.

Sincerely,
AMEC Environment & Infrastructure, Inc.

Alison L. Dunn, P.G.
Project Manager
859-566-3729
alison.dunn@amec.com

Sarah M. Donaldson, P.G.
Senior Geologist
859-566-3730
sarah.donaldson@amec.com

cc: John Young, Robert Bosch, LLC
David Luepke, Robert Bosch Tool Corporation

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APPENDICES

1.0 INTRODUCTION

AMEC Environment & Infrastructure, Inc. (AMEC) was retained by Robert Bosch Tool Corporation (RBTC, formerly Vermont American Corporation), a Division of Robert Bosch, LLC, to perform additional investigation services at the RBTC Leitchfield Division – Building #1 (RBTC LDB#1), located at 410 Embry Drive in Leitchfield, Kentucky (Agency Interest # 1579). Environmental Site Assessment (ESA) and investigations activities have been conducted at the site since late 2003.

The investigation services described herein were performed in accordance with the recommendations for additional work in AMEC's *Interim Status Report of Corrective Action and Remedial Action Investigation, Robert Bosch Tool Corporation, Leitchfield Division Building #1, Leitchfield, Kentucky* dated April 23, 2012, which was approved by Ms. April Webb of the Kentucky Department for Environmental Protection, Division of Waste Management (KDWM) in a letter dated April 26, 2012.

This report is intended as a Status Report, to summarize the findings from the most recent phases of investigation that focused on the neighboring properties east of the former RBTC LDB#1 site. AMEC completed the following tasks which are summarized in this report:

- Submitted additional offsite access requests to two neighboring property owners: the Cirillo Family and the Milliner Family.
- Installed seven soil gas sampling points around the Barton residence, SG-1 through SG-7 and four soil gas sampling points around the Hack residence, SG-8 through SG-11.
- Performed two rounds of air sampling from the crawlspace of the Barton residence.
- Performed indoor air sampling inside the RBTC former manufacturing building.
- Collected a groundwater sample from the former water supply well on Mr. Hack's property.
- Installed 10 additional soil borings/temporary wells (GP-116 through GP-125) on the Hack and Kiper properties.

2.0 OFFSITE PROPERTY ACCESS STATUS

As summarized in the April *2012 Interim Status Report of Corrective Action and Remedial Action Investigation*, in order to continue to delineate the extent of impacts of soil and groundwater associated with the RBTC LDB#1 site, access to offsite properties was necessary. Access was previously requested from five offsite property owners, including Leggett & Platt, owner of the manufacturing facility to the north across Embry Drive, and four owners of residential properties to the east (referred to as the Cirillo, Barton, Kiper and Hack properties). Access was granted to RBTC by the Barton, Kiper and Hack property owners. Both the Cirillos and representatives of Leggett & Platt verbally denied access to AMEC (on behalf of RBTC) for investigation purposes in early 2012; however, no formal written denial of access has been received by AMEC or RBTC from either owner.

A follow-up written request for access was submitted to the Cirillos on April 20, 2012 via certified mail. In addition, an initial request for access was submitted to another residential property owner (Milliner) on April 13, 2012. Documentation regarding proof of receipt of the certified letters is included in Appendix A. Alison Dunn with AMEC contacted Mr. Cirillo by telephone on May 20, 2012 to discuss access to the property. Mr. Cirillo verbally confirmed his earlier statement that they do not want to grant access but has not responded in writing. AMEC made several attempts to reach the Milliner family by phone, and to this date has not had formal communications with the Milliners regarding access.

3.0 FIELD ACTIVITIES AND INVESTIGATION METHODS

The following sections describe the field activities performed by AMEC and its subcontractors at the site from April through June 2012. Photographs of the field events are included in Appendix B. New soil boring logs are provided in Appendix C. Laboratory reports are provided in Appendix D. Figure 1 is a topographic map of the area and a general site layout with the location of sampling points is provided as Figure 2.

3.1 SOIL GAS SAMPLING

Based on the previous analytical results for the shallow zone groundwater on offsite properties, AMEC recommended that a soil vapor assessment be conducted on the Barton property. The Barton property is the only residence within the currently defined plume area that is occupied and that had granted access to AMEC. In addition, based on results from sampling of the groundwater of the well on Mr. Hack's property (described later in section 3.3), AMEC attempted to perform a soil vapor assessment on the Hack property.

3.1.1 Soil Gas Point Installation

Seven soil gas monitoring points (SG-1 through SG-7) were installed around the exterior of the Barton Residence and four soil gas monitoring points (SG-8 through SG-11) were installed around the exterior of the Hack Residence as part of the Vapor Intrusion Investigation. SG-1 through SG-7 were installed on April 30, 2012, leak-tested on May 1, 2012 and sampled on May 2, 2012. SG-8 through SG-11 were installed on May 24, 2012 and leak-tested on May 25, 2012. However, the soil around the sampling points on the Hack property was determined to be too wet (saturated) to collect soil gas samples on May 25, 2012 (SG-10) and May 29, 2012 (remaining locations).

The soil gas points were installed by hand auger methods, on the sides of each residential structure. A detailed map depicting the location of the soil gas sample points is included as Figure 3. During installation of the points on the Hack property, the final location of the proposed points was modified due to difficulties encountered during hand augering:

obstructions such as concrete pads, gravel layers and tree roots were encountered in multiple attempted locations.

The proposed completion depths of 3 feet below ground surface (bgs) were attempted at all locations. Because of the shallow groundwater in the area, after augering at each location, field personnel waited approximately one hour after augering to check for the presence of water in each boring location prior to constructing the point. SG-9 was augered to three feet but was backfilled to two feet due to the presence of water in the boring. The original hand auger boring SG-4 was installed south of SG-3; however, that boring filled with water and a second boring was conducted to the north of SG-3. During leak-testing, SG-10 was observed to contain water, and on May 29, 2012 the remaining soil gas points on Mr. Hack's property (SG-8, SG-9 and SG-11) were determined to contain water. The soil gas sampling point construction details are summarized in Table 1.

The soil gas points were constructed of ¼-inch outside diameter (OD) Teflon® tubing barb-fitted to Geoprobe® series AT86 stainless steel wire screen implants and capped (at the sampling end) with Swagelok™ fittings. The tubing extended to approximately 2 feet above ground surface. The 6-inch long stainless steel screen implants were ¼-inch in diameter, with 0.006-inch pore openings. A sand pack of glass beads was placed around the screen implant to a level approximately 2-inches above the top of the screen. Above the glass bead interval, fine-grained bentonite was placed to approximately 4-inches below the ground surface and was hydrated to complete the annular seal.

Tubing and soil gas point evacuation (after point installation) was completed with a field photoionization detector (PID). Once the Swagelok™ cap was removed, the tubing was evacuated with the PID air pump to remove stagnant air, and then field-screened for soil gas total organic vapor (TOV) content using the PID. The PID was equipped with a 10.6-eV lamp with a detection limit of 0.1 parts per million by volume (ppmv), and calibrated daily with 100 ppmv isobutylene. The points were completed with a temporary polyvinyl chloride (PVC) lid installed flush with or close to the ground surface for protection. The Teflon® tubing (after evacuation) was capped with a Swagelok™ fitting and was coiled below ground surface inside the PVC protection lid.

3.1.2 Sample Point Integrity Testing

Evaluation of sample point integrity was conducted in accordance with procedures described during the 2006 Midwestern States Risk Assessment Symposium (MWRAS) and in the Reference Handbook for Site-Specific Assessment of Subsurface Vapor Intrusion to Indoor Air *(Reference Handbook for Site-Specific Assessment of Subsurface Vapor Intrusion to Indoor Air, Electric Power Research Institute, March 2005*). Sample point integrity testing was conducted on May 1, 2012 (Barton) and May 25, 2012 (Hack); one day after installation and approximately 24-hours prior to the sampling event (Barton).

Ideal conditions for vapor intrusion sampling are during falling barometric pressure conditions (with no precipitation) to take advantage of a potential upward soil gas pressure gradient, which would lead to measurement under conservative, worst-case conditions. Vapor intrusion sampling should not be conducted during or immediately after heavy rainfall events. The soil gas sampling event on the Barton property was conducted on a day without precipitation and stable to falling barometric pressure.

To assess sampling point flow characteristics, flow and pressure tests were conducted at each sampling location. Testing was conducted using a Gillian GilAir-3 pump (Gillian pump) and a Magnehelic vacuum gauge connected to the sampling line. The Gillian pump is a battery operated, microprocessor controlled, sample collection pump with a flow range of 0 to 4 liters per minute (L/min), and an integral rotometer indicating flow rate. The Magnahelic vacuum gauge had an operating range of 0 to 1 inches of water (in/H_2O).

The sampling pump and vacuum gauge were connected to the sampling line and operated at approximately 1 L/min. The flow rate and corresponding vacuum was monitored until stable and recorded. Testing was conducted for a period of approximately 0.5 to 2 minutes at each location. Pressure results ranged from 0.10 in/H_2O to 0.20 in/H_2O. The results of the flow and pressure testing are summarized in Table 2. Pressure testing could not be conducted on SG-10 due to the presence of water in the sample point.

The integrity of the surface seal at each soil gas sampling point is critical for the collection of a valid sample. In accordance with MWRAS and Electric Power Research Institute

(EPRI) Manual recommendations, a leak test using an inert tracer gas was conducted at each sampling location. The leak test was completed by injecting commercially available helium into a controlled headspace above each sampling point.

Using a modified 2-gallon plastic pail equipped with a flexible surface seal, helium was injected at a controlled flow (approximately 0.5 standard cubic feet per hour [scfh]) into the headspace above the sampling point. The concentration in the headspace was monitored using a portable helium detector, and simultaneously soil gas was evacuated from the subsurface at a flow rate of 0.5 to 1 L/min into a 1-Liter Tedlar® sampling bag.

The soil gas sample was collected using a vacuum box equipped with a Gillian pump. The Gillian pump induced vacuum on the vacuum box and created sufficient pressure to fill the
Tedlar® sampling bag connected to the soil gas sample tubing. Once the Tedlar® bag was filled, the pump was disconnected, the vacuum box opened, and the Tedlar® bag inlet valve closed. The soil gas sample was then available for helium and other gas screening. The gas screening was performed with a MiniRAE 2000 & MiniRAE 3000 photo ionization detector (PID), a LanTech GEM 2000 multi-gas meter, and a Dielectric MGD 2002 Helium/Hydrogen Multigas Detector.

As previously stated, during leak testing SG-10 (Hack) contained water and on May 29, 2012 the remaining soil gas points on Mr. Hack's property (SG-8, SG-9 and SG-11) were determined to contain water. At the Barton property, flow, pressure, leak and multi-gas testing occurred one day prior to the initiation of vapor intrusion sample collection. Helium was not detected during leak testing (all readings 0.0 ppm) in any samples collected from Barton soil vapor points. Minor amounts of carbon dioxide (ranging from 2.0 to 3.8%) were detected in some of the samples. Volatile Organic Compounds (VOCs) were detected in all the Barton soil gas points and detections ranged from 0.3-0.6 ppm.

3.1.3 Soil Gas Sample Collection

The soil gas samples were collected from seven locations (SG-1 through SG-7 on the Barton property) on May 2, 2012 in general accordance with United States Environmental Protection Agency (U.S. EPA) guidance (*Assessment of Vapor Intrusion in Homes near*

the Raymark Superfund Site Using Basement and Sub-Slab Air Samples. United States Environmental Protection Agency, National Risk Management Research Laboratory, U.S.EPA/600/R-05/147. March 2006) and American Society for Testing and Materials (ASTM) *Standard Guide for Soil Gas Monitoring in the Vadose Zone,* ASTM International, November 1992 sampling methods. Table 3 is a Vapor Intrusion Sample Identification and Analysis Summary.

The initial step was to remove the Swagelok® cap (used to close off and protect the soil gas Teflon® line from contamination) from the sampling point and connect to a 6-liter negative pressure (vacuum) certified clean SUMMA™ canister. The orifice of the SUMMA™ canister was equipped with a regulator calibrated for 8-hour sampling. In line with the regulator was a pressure (vacuum) gauge and a 7 micron filter. The soil gas sampling point was connected to the filter end of the SUMMA™ canister apparatus.

Once the canister valve was opened, the initial vacuum (typically -29 to -27 inches of mercury) was recorded. Other parameters that were recorded while sampling included laboratory canister number and regulator number to corresponding SUMMA™ canister used. Table 4 presents a summary of this data for each sampling location. The canisters were left open and undisturbed over the duration of sampling. Each canister was checked throughout the sampling duration (as practicable) to confirm sample collection. After the completion of sample collection, the canister was closed, and sealed with a brass Swagelok® cap.

Prior to collection, each sample canister was labeled with the sample location designation, time, and date of each collection, initial pressure and a list of laboratory analyses to be performed. Immediately after collection, the final pressure was added to the canister label. The canisters and regulator apparatus was then wrapped in bubble wrap or similar padding, placed in boxes and shipped via Federal Express (FedEx®) to Pace Analytical, Inc. (Pace), located in Minneapolis, Minnesota to be analyzed for chlorinated volatile organic compounds (CVOCs) using USEPA Method TO-15 SIM and carbon dioxide, methane and oxygen using Method 3C. Results are summarized on Table 5.

3.1.4 Soil Gas Point Abandonment

On May 5, 2012, the soil gas sample points located on the Barton property (SG-1 through SG-7) were abandoned. At each location, the bentonite was rehydrated in order to remove the bentonite seal. A hand auger was used to remove some of each assembly and the surrounding bentonite. Each boring location was backfilled with the soil removed during installation.

On June 1, 2012, the soil gas sample points located on the Hack property (SG-8 through SG-11) were abandoned. At each location a hand auger was used to remove the assembly and surrounding materials (bentonite and glass beads). Each boring location was backfilled with the soil removed during installation.

3.2 AIR SAMPLING – RBTC PLANT AND BARTON CRAWL SPACE

In order to further evaluate potential vapor intrusion pathways, air sampling consisting of indoor air and crawl space sampling was conducted on May 2, 2012 (RBTC Building indoor air), May 24, 2012 (Barton crawl space) and June 13, 2012 (Barton crawl space). All samples were collected over an 8-hour sampling period. Each sampling event included the collection of one ambient (background) air sample. The sampling locations are depicted on Figure 3 (Barton) and Figure 4 (RBTC). The sample identifications correlated to sample location and sample analysis are summarized in Table 3.

3.2.1 Ambient Air (Background) Sampling

Upwind ambient air samples were collected during each of the air sampling events. The background samples are referred to as Exterior (collected on May 2, 2012), Background-1 (collected on May 24, 2012) and Background-2 (collected on June 13, 2012). Ambient samples were located at least 10 feet upwind from the building where air sampling was being conducted, and approximately three to five feet above the ground. Sample locations are depicted on Figures 3 and 4. The Exterior sample canister was placed on the south side of the RBTC building. The Background-1 sample was placed south and upwind of the Barton property on Mr. Hack's property. The Background-2 sample was placed north and upwind of the Barton house on the Barton property. No obvious sources of chemicals were noted in the vicinity of any of the ambient air samples.

All ambient air samples were collected using 6-liter polished stainless steel SUMMA™ canisters that were cleaned, individually certified, and evacuated prior to sampling. The orifice of the SUMMA™ canister was equipped with a regulator calibrated for 8-hour sampling. In line with the regulator were a pressure (vacuum) gauge and a 7 micron filter. The vacuum gauge allowed for real time confirmation of sample collection. Once the canister valve was opened, the initial vacuum (typically -29 to -27 inches of mercury) was recorded. Other parameters that were recorded while sampling included the laboratory canister number and regulator number corresponding to the SUMMA™ canister used. Table 4 presents a summary of these data for each sampling location.

The canisters were left open and undisturbed over the duration of sampling (approximately 8 hours). Each canister was checked throughout the sampling duration (as practicable) to confirm sample collection. After the completion of sample collection, the canister was closed, and sealed with a brass Swagelok® cap.

Prior to collection, each sample canister was labeled with the sample location designation, time, and date of each collection, initial pressure and a list of laboratory analyses to be performed. Immediately after collection, the final pressure was added to the canister label. The canisters and regulator apparatus were then wrapped in bubble wrap or similar padding, placed in boxes and shipped via FedEx® to Pace to be analyzed for CVOCs by USEPA Method TO-15 SIM and carbon dioxide, methane and oxygen using Method 3C. In addition, sample Background-2 was analyzed for the full suite of VOCs by USEPA Method TO-15. Results of the ambient air samples are summarized on Table 6 (as a group) and on Tables 7 and 8, by sampling event.

3.2.2 Plant Building Indoor Air

Indoor air samples were collected on May 2, 2012 within the RBTC building (IA-1 through IA-4). Approximate sample locations are depicted on Figure 3. Sample collection methods were similar to those methods described in Section 3.2.1. All air samples were collected using 6-liter polished stainless steel SUMMA™ canisters that were cleaned, individually certified, and evacuated prior to sampling. The orifice of the SUMMA™

canister was equipped with a regulator calibrated for 8-hour time-weighted average (TWA) sampling. In line with the regulator were pressure (vacuum) gauge and a 7 micron filter.

Four indoor air samples were placed inside the RBTC building. One sample was placed in the vicinity of the former Henry Filter Pit. The remaining samples were placed in the northeast, southeast and southwest portions of the building. During sample collection, materials stored in the vicinity of each of the sampling points were cataloged. Materials stored included hydraulic fluid and paint near IA-1 and compressors near IA-4. The following closed containers of chemicals were also seen stored in the building: cleaning chemicals (bleach, unidentified degreaser), finishing stripper, floor sealant, paint, and primer.

The canisters and regulator apparatus were shipped via FedEx® to Pace to be analyzed for CVOCs by USEPA Method TO-15 SIM and carbon dioxide, methane and oxygen using Method 3C. Indoor air sample results from sampling in RBTC building are summarized on Table 7.

3.2.3 Residential Crawl Space Sampling

Two separate sampling events were conducted within the Barton crawl space, on May 24, 2012 (CSA-1 through CSA-3), and June 13, 2012 (CSA-4 through CSA-7). Approximate sample locations are depicted on Figure 4. Sample collection methods were the same as those methods described in Section 3.2.1 and 3.2.2.

The Barton crawl space consists of a dirt floor partially covered in plastic and cardboard. The air handling system for the house is located in the crawlspace. Small quantities of rodent bait/poison were seen in the crawl space. During the first sampling event, three samples were collected (CSA-1 through CSA-3). The sample locations, depicted on Figure 3, were in the northwest, northeast and southern portions of the crawl space. During the second sampling event (CSA-4 through CSA-6), samples were collected in similar locations. In addition, a duplicate sample was collected (CSA-7).

Sample CSA-7 was a duplicate of sample CSA-5, located in the northeast corner of the crawl space. The duplicate sample was collected by connecting two canisters in parallel

with a split sampling apparatus provided by the laboratory. The split apparatus was fitted with two Summa™ canister connection points attached to one regulator (see Photo 11 in Appendix B). The regulator was calibrated to collect enough sample to fill two canisters over an 8-hour period.

The canisters and regulator apparatus were shipped via FedEx® to Pace to be analyzed for CVOCs by USEPA Method TO-15 SIM and carbon dioxide, methane and oxygen using Method 3C. In addition samples, CSA-4 through CSA-7 were analyzed for the full suite of VOCs by USEPA Method TO-15. Crawl space sample results are summarized on Table 8.

3.3 FORMER WATER SUPPLY WELL SAMPLING – HACK WELL

Previous sounding of the Hack well by AMEC in late 2010 had shown that it contained oil in a separate phase on top of water. AMEC recommended that the thickness of oil be quantified and that a sample be collected for fingerprint analysis of Extractable Petroleum Hydrocarbons utilizing gas chromatograph/flame ionization detection (GC/FID) by Method OA-2 to evaluate the potential source material for the product in this well.

On May 1, 2012, AMEC personnel accessed the former water supply well on Mr. Hack's property. The well is located in a carport and is covered with a metal lid (which has been peeled back on one corner) and carpeting. The well was sounded and was 37.4 feet deep. There was no visible evidence of any product in the well. A sample was collected of the water at the top of the water column (likely location of any skim of product) and submitted to ESC Lab Sciences (ESC), using a new disposable polyethylene bailer, for OA2 analysis (petroleum fingerprint). After collection of the OA2 sample, a sample was collected and submitted to ESC Lab Sciences for VOC analysis (USEPA Method 8620). Analytical results for VOCs in the Hack well sample are summarized in Table 9, along with previous results from former supply wells on the RBTC site (PW-1 and PW-2) and the Kiper property. There were no detections of any of the OA2 parameters, therefore those results are not summarized on a table.

3.4 ADDITIONAL INVESTIGATIONS – SOIL AND SHALLOW GROUNDWATER

Additional investigation activities were conducted in May and June 2012 to continue to define the horizontal extent of CVOC impacts in soil and shallow groundwater.

In general, the field screening study consisted of collecting soil and groundwater samples for field analysis from soil borings advanced using direct push technology (DPT) methods. Collection of groundwater samples was facilitated by placing temporary wells in the borings and allowing groundwater to recover over a period of one or more days prior to groundwater sample collection. Soil samples were screened during soil boring advancement using a PID. Selected soil samples, and all groundwater samples recovered from the borings, were also screened in the field for the presence of CVOCs using the Color-Tec method. Groundwater samples were submitted for laboratory analysis of VOCs. Additional detailed information on the methods used in the field screening study is provided in the following sections.

3.4.1 Soil Borings and Soil Sampling

DPT borings were advanced by AST Environmental, Inc. (AST), a subcontractor to AMEC, on May 29 and 30, 2012, using a track-mounted Geoprobe® 54LT rig. A total of 10 borings, identified as GP-116 through GP-125 were advanced at the locations shown on the site map in Figure 5. Seven borings (GP-116 through GP-122) were advanced on the Hack property and the remaining three borings (GP-123 through GP-125) were advanced on the Kiper property. Each soil boring was advanced using a three-foot long, two-inch diameter, stainless steel dual tube sampler. The sampler was lined with a disposable plastic (acetate) sleeve for each sample interval, to minimize the potential for cross-contamination. Soil samples were collected continuously from each boring for inspection and logging by the AMEC field representative. Soil samples were collected in resealable plastic bags and field screened using a MiniRAE 2000 PID calibrated to 100 ppmv isobutylene. PID readings could not be collected on May 30, 2012 due to an equipment malfunction.

In addition to PID screening, a soil sample was collected from each three foot interval into a 2-ounce glass jar with a Teflon®-lined lid, packed with minimum headspace, and placed

in a cooler with ice for possible laboratory analysis. After completing the PID field screening of each interval, the two intervals with the highest readings from each boring were selected for further field-screening using the Color-Tec method. On May 30, 2012, due to PID malfunction issues, all intervals were field-screened using the Color-Tec method.

In general, the soil borings were advanced to refusal through silty clay soil grading into decomposed shale with partings (except in GP-117). Due to the depth of decomposition/weathering of shale, the depth to refusal was variable in borings drilled across the Hack and Kiper properties. The depth to refusal in borings advanced on the Hack property ranged from 9.6 to 11.8 feet bgs, except in GP-117 which encountered refusal at 6.5 feet bgs (obvious shale partings were not encountered in the tube sampler at this depth). The depth to refusal in borings advanced on the Kiper property ranged from 10.1 to 10.7 feet bgs, except in GP-125 which encountered refusal at 6 feet bgs.

A Soil Test Boring Record field form was used by the AMEC field representative to record drilling and geologic information and sample locations. Soil descriptions, PID screening results and other pertinent field information are presented on soil boring logs prepared for each soil boring, copies of which are provided in Appendix C. Depths to refusal and estimated bedrock elevations for the borings performed in 2012, along with previous borings, are summarized in Table 10.

Based on the Color-Tec field screening results, total CVOCs in all samples were <0.2 CTU (non-detect). Given the field screening results, soil samples were not submitted to the laboratory for VOC analysis.

3.4.2 Temporary Monitoring Wells and Groundwater Sampling

Temporary monitoring wells installed in GP-116 through GP-125 were constructed of 3/4-inch diameter Schedule 40 PVC, factory slotted screens and flush-threaded riser, set directly in the 2-inch DPT borings. A washed sand filter pack was placed around each well screen from the bottom of the boring to approximately two feet above the top of the well screen. A bentonite seal (consisting of hydrated bentonite chips) was then placed above the washed sand filter pack for the remainder of the annulus (to approximately 0.5

feet below the ground surface). In addition, hydrated bentonite was packed around the riser at the surface to prevent inflow of surface stormwater during rainfall. The temporary monitoring wells were removed and the borings properly abandoned with hydrated bentonite upon completion of groundwater sampling. Temporary monitoring well installation and abandonment logs are provided in Appendix C.

Water levels were gauged and checked in the temporary monitoring wells. Four wells (GP-119, GP-122, GP-123 and GP-125) had water and the remaining 6 wells were found to be dry during each gauging check. Water level readings are summarized on Table 11.

Groundwater samples were collected from the temporary 3/4-inch wells (GP-119, GP-122, GP-123 and GP-125) using clean ½-inch diameter disposable polyethylene bailers. Groundwater samples collected for field-screening using the Color-Tec method were collected in 40-ml VOA vials filled approximately one-half to three-quarters full, with no preservative. During Color-Tec sample collection, duplicate samples were also collected for laboratory analysis from each of the temporary monitoring wells, and were stored in full 40-ml VOA vials preserved with hydrochloric acid. Those vials were maintained in a cooler with ice prior to shipment to the laboratory for analysis. A total of five (including one duplicate sample collected from GP-119) groundwater samples were submitted to ESC for VOC analysis by USEPA Method 8260B.

3.4.3 Color-Tec Field Screening

Between May 29 and June 1, 2012, AMEC field-tested a total of 27 soil samples and 4 groundwater samples collected from the 10 DPT borings/temporary monitoring wells by the Color-Tec method. The results of the field screening study are summarized in the Soil Boring Summary Diagram provided in Table 12.

3.4.4 Field Screening Results

The results of the field screening are summarized in the Soil Boring Summary Diagram provided in Table 12. This diagram represents the vertical profile in each soil boring and summarizes the PID, Color-Tec, and laboratory analytical results available for each soil sampling interval, as well as the results available for groundwater (above each soil

profile). Soil PID readings are shown in black (as ppm of isobutylene), Color-Tec results are shown in red (as Color-Tec Units [CTUs]), and laboratory analytical results are shown in purple (as ppm of total CVOCs detected).

Soil samples collected from borings GP-116 through GP-121 were field screened using a PID. Results are summarized on the logs included in Appendix C and on Table 12. To summarize, PID readings ranged from 0.2 ppm to 0.9 ppm, except in GP-118 in sample collected from 0 to 3 feet (14.5 ppm). Samples collected from the remaining borings, GP-122 through GP-125, were not field screened due to PID equipment malfunction.

A total of four groundwater samples were collected from temporary wells, GP-119, GP-122, GP-123 and GP-125, to analyze via the Color-Tec screening method. All four samples had non-detectable (<0.2 CTU) concentrations of CVOCs using the Color-Tec Method. All four groundwater samples were submitted to the laboratory for analysis of VOCs.

3.4.5 Laboratory Analysis

Five groundwater samples collected from DPT borings/temporary monitoring wells (GP-119, GP-122, GP-123, GP-125 and a duplicate from GP-119) were submitted to ESC for analysis of VOCs by USEPA Method 8260B. All samples were containerized and preserved according to analytical method requirements, packed in ice, recorded on a chain-of-custody form, and shipped via overnight delivery service to ESC for analysis. Soil samples were not submitted for laboratory analysis. Full laboratory reports for the laboratory analyses of groundwater performed in May and June 2012 are provided in Appendix D. The results are summarized in Table 13 (groundwater from temporary wells).

3.5 INVESTIGATION-DERIVED WASTE

Wastes generated during the April through June 2012 field activities included one drum of solids (drill cuttings) and less than 1/2 drum of liquids (decontamination water). Drums are currently stored inside the former RBTC building in a secured and locked storage area. The drums were labeled with content information and are being inspected weekly

by representatives of RBTC pending removal from the site by RBTC's waste disposal subcontractor.

4.0 DISCUSSION OF FINDINGS

The findings from the investigations performed from April to June 2012 are discussed below, and have been used to update and expand on the findings from previous investigations.

4.1 HYDROGEOLOGIC SETTING AND GROUNDWATER RESULTS

The primary purpose of the additional investigations was to establish whether the Hack well, which is 37 feet deep and presumed to be finished in bedrock, is impacted by CVOCs, and to continue to define the lateral extent of groundwater impacts in the shallow zone.

Similar to previous investigations, in general, materials in the shallow subsurface have been found to consist of brown silty clay overlying bedrock consisting of gray fissile shale. In most locations, a transitional zone is observed at the soil-bedrock interface, just above the top of more competent shale bedrock, consisting of dry flakey clay with obvious relict shale partings (described as decomposed shale). Although the silty clay overburden soils appeared dry when first sampled, of the 10 DPT borings/temporary wells installed, four eventually produced water.

The laboratory report for the groundwater sample collected from the former water supply well on the Hack property is included in Appendix D2. The laboratory reports for the groundwater samples collected in May and June 2012 from the temporary monitoring wells on Hack and Kiper properties are provided in Appendix D5. The results are summarized in Table 9 (groundwater from former supply wells) and Table 13 (groundwater from temporary wells).

In these tables, detected values are shown in bold, and non-detect values are designated by the symbol "<" followed by the analytical reporting limit. The CVOCs are listed at the top of the table, separately from the other detected VOCs, and a Total CVOC value (derived as the sum of the CVOC values) is provided for each sample in the tables.

For comparison to the analytical results, the tables also list screening levels for groundwater in Kentucky, i.e., the federal maximum contaminant levels (MCLs) for drinking water, and the USEPA Regional Screening Levels (RSLs June 2011 version) for tap water. Analytical results that exceed the MCL (or for a compound with no MCL, the RSL) are shaded in yellow.

Contrary to an earlier inspection, free phase petroleum product was not seen in the Hack well during this sampling event and there were no detections of any parameter on the OA2 analyte list. 1,1-Dichloroethene (1,1-DCE), vinyl chloride, and 1,1-dichloroethane were detected above the screening levels. These analytes have also been detected in the Kiper well and onsite former water supply wells (PW-1 and PW-2) above the screening levels. Therefore investigations conducted to date confirm that lateral extent of the groundwater contamination in mid-level bedrock extends onto residential properties to the east.

Regarding the samples collected from temporary wells installed on the Hack and Kiper properties, all five samples (four wells plus a duplicate sample) had no detected CVOCs (at a reporting limit of <0.0010 mg/L). The remaining six temporary wells installed at the same time did not produce groundwater for sampling.

Figure 6 is a map showing the distribution of total CVOCs in the shallow zone based on the samples collected in February and March 2012, supplemented with the newly collected results from four shallow groundwater samples collected in May and June 2012. The distribution of total CVOCs did not significantly change from the earlier 2012 distribution map. However, the finding of no detected VOC compounds in the four temporary wells that produced water confirms that the lateral extend of CVOC impacts in the shallow groundwater zone has been defined to the east in the area of the residential properties.

4.2 SOIL GAS SAMPLING

Based on the groundwater results from February and March, soil gas sampling was performed to investigate the potential for vapor intrusion into residences. The

investigations focused on the two residential properties (Barton and Hack) that are currently occupied, and whose owners have granted access to RBTC.

In the seven samples from the Barton property, carbon dioxide detections ranged from 2.0% to 3.8%. Methane was not detected in any sample submitted. Oxygen detections ranged from 10.6% to 18.4%.

CVOC sample results were compared to the USEPA Regional Screening Levels (RSLs) for Residential Air (June 2011). In order to account for attenuation of concentrations between soil gas and indoor air, the screening levels were adjusted to represent the soil gas attenuation factor used by the USEPA (0.1), by multiplying each RSL value by 10. The screening level values shown in Table 5 are the RSLs adjusted by 10x.

No CVOC compounds were detected above the screening levels used. Trichloroethene (TCE), the primary constituent of concern in groundwater, was found at 10.3 micrograms per cubic meter [µg/m3]. Additional constituents detected in soil gas included 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), carbon tetrachloride, tetrachloroethene (perchloroethylene, or PCE), and cis-1,2-DCE.

Most of the compounds detected in the soil gas samples have also been commonly detected in groundwater samples collected from the Barton and RBTC properties, with the exception of carbon tetrachloride. This compound has only been detected in one groundwater sample collected previously (from MW-11A, a permanent monitoring well located inside the RBTC plant building, very close to the presumed source area, at a concentration of 0.00057 milligram per liter [mg/L]).

4.3 AMBIENT AIR SAMPLING

AMEC collected an upwind ambient air sample (referred to as Exterior, Background-1 and Background-2) in each of the three different air sampling events. All air samples, including the three ambient air samples, were analyzed for TO-15 SIM (CVOC list only) and oxygen, carbon dioxide and methane. In addition, sample Background-2 was analyzed for the full VOC list (TO-15). The ambient air samples are combined in a

comprehensive table included as Table 6. Results are also summarized on the individual tables provided for the sampling events (Table 7 and Table 8).

Various VOCs including chlorinated VOCs were detected in the three ambient air samples. All three contained a number of CVOCs (1,2-DCA, carbon tetrachloride, PCE, TCE and vinyl chloride). Sample Background-2, which was analyzed for the full TO-15 list of VOCs, also contained 1,4-dichlorobenzene, acetone, chloromethane, dichlorodifluoromethane, and ethanol. When comparing the ambient air sample results to the USEPA RSLs for residential air (June 2011), five VOCs (all chlorinated) were present in ambient air above the RSL screening levels in at least one sample: 1,2-DCA (highest detection 0.23 $\mu g/m^3$), PCE (highest detection 2.2 $\mu g/m^3$), TCE (highest detection 1.4 $\mu g/m^3$) vinyl chloride (one detection at 0.065 $\mu g/m^3$), and carbon tetrachloride (highest detection 1.0 $\mu g/m^3$).

AMEC also obtained statewide ambient air quality data from the Kentucky Department for Air Quality's (DAQ), extracted from the USEPA Air Quality System (AQS) database. The database was queried for information available from January 1, 1966 through May 31, 2012. The DAQ maintains three air monitoring stations that were part of the data set. These stations are located in Calvert City, Lexington and Ashland, Kentucky. The minimum, maximum, median and average values from the database, for each of compounds of interest, are included on Table 6. However, there are no AQS ambient data available for 1,2-DCA or PCE.

Carbon tetrachloride and vinyl chloride detections in site-specific ambient air have been within the range of the AQS statewide ambient data, which also typically exceed the residential RSLs. TCE detections for the site-specific ambient air data, however, are above the AQS statewide ambient data. The AQS maximum result for TCE is 0.419 $\mu g/m^3$ which is below the three site-specific background results (0.83 to 1.4 $\mu g/m^3$), indicating that background concentrations of TCE in the area of the site are present at higher levels typically than other monitored areas of the State.

4.4 CRAWL SPACE AIR SAMPLING – BARTON PROPERTY

A total of seven air samples, including one duplicate sample, were collected in the crawl space of the Barton property (CSA-1 through CSA-7). In addition, two ambient air samples were collected (Background-1 and Background-2) during each of the sampling events. Sample results are included on Table 8 and sample locations are depicted on Figure 3.

Carbon dioxide and methane were not detected in any sample submitted. Oxygen detections ranged from 16.8% to 22.3%.

Several CVOCs were detected in the background and crawl space air samples including PCE, TCE, 1,2-DCA, and carbon tetrachloride. Trans-1,2-DCE was detected in several of the samples submitted from the crawl space, but was not detected in the background samples.

The air samples collected within the Barton crawl space were compared to the USEPA RSL's for residential air (June 2011 version). Compounds detected above the screening levels in both the background and crawl space samples were PCE, TCE, 1,2-DCA, and carbon tetrachloride.

Carbon tetrachloride is not a contaminant of concern in groundwater at the site. Carbon tetrachloride has been detected in all three ambient air samples collected at the site, ranging in concentration from 0.71 to 1.0 $\mu g/m^3$. Carbon tetrachloride in the crawl space samples was overall lower than in ambient air, ranging from <0.086 to 0.95 $\mu g/m^3$.

The average of the TCE concentrations in the crawl space samples (1.13 $\mu g/m^3$) was not significantly different than the average of the TCE concentrations in the ambient air samples collected at the same time (1.12 $\mu g/m^3$), although the range in concentrations was greater in the crawl space samples (<0.092 to 2.0 $\mu g/m^3$). It can be concluded that the TCE concentrations in the crawl space and in the local ambient air are similar.

PCE and 1,2-DCA detections in the crawl space samples also had a greater range, with a slightly higher average than background sample concentrations, but were within the same

order of magnitude. Overall, the concentrations of chlorinated VOCs in the Barton crawl space samples were found to occur at very similar levels as in local ambient air.

In the crawl space samples that were analyzed for the full TO-15 VOC list, other VOCs were detected which have not been detected consistently in groundwater at the site overall, and were not detected in the groundwater samples submitted from the Barton property. These included 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, 2-hexanone, 2-propanol, 4-ethyltoluene, 4-methyl-2-pentanone, benzene, chloroform, dichlorodifluoromethane, ethanol, ethyl acetate, ethylbenzene, naphthalene, methylene chloride, toluene, trichlorofluoromethane, xylene, n-heptane, and n-hexane. Most of these compounds were not detected in the background air sample, and are therefore thought to be related to a source specific to the Barton residence.

4.5 AIR SAMPLING – RBTC PLANT

A total of four air samples were collected from within the RBTC Plant (IA-1 through IA-4). The samples were analyzed for TO-15 SIM (CVOC list), methane, carbon dioxide and oxygen. Sample results are included on Table 7 and sample locations are depicted on Figure 4.

Carbon dioxide and methane were not detected in any sample submitted. Oxygen detections ranged from 15.6% to 19.1%.

Several CVOCs were detected in the samples submitted for analysis including 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2,2-tetrachloroethane (1,1,2,2-PCA), 1,2-DCA, PCE, TCE, vinyl chloride, cis-1,2-DCE and carbon tetrachloride,. Except for cis-1,2-DCE, 1,1,1-TCA, 1,2-DCA and 1,1,2,2-PCA, all compounds were also detected in the ambient sample collected on the same day.

The indoor air samples collected within the RBTC Plant were compared to the USEPA RSLs for industrial air (June 2011). Compounds detected above the screening levels included 1,1,2,2-PCA, PCE and TCE. 1,1,2,2-PCA is not a compound of concern for the property based on the groundwater sampling conducted historically (it has not been detected in any groundwater sample submitted for analysis). Only one sample had a TCE

concentration above the screening level: sample IA-2 which was collected near the Henry Filter Pit.

Only one sample had a PCE concentration above the screening level: sample IA-3 which was collected in the southwest corner of the building. This detection was significantly elevated compared to the other detections from within the building and the background sample (36.9 $\mu g/m^3$ compared to an average detection 0.44 $\mu g/m^3$ for the remaining samples). No obvious signs or sources for CVOCs were seen in the immediate vicinity of IA-3; however, small quantities of general chemicals were noted in several areas of the building (hydraulic oil, paint, thinner, floor sealer, etc.).

4.6 ANALYTICAL QUALITY CONTROL

ESC noted in their analytical reports produced for this project minor quality control (QC) issues associated with estimated values due to detections below calibration points, laboratory control samples outside limits, and sample matrix interference. The duplicate groundwater sample collected on May 30, 2012 (duplicate of GP-119) was within the same detection ranges as the original sample. The analytical data flags have been included in the summary tables and notes on QC issues associated with the data are included in the Quality Assurance Report with each ESC analytical report provided in Appendix D.

All air samples were collected in laboratory certified clean canisters provided by Pace. Lab analyses of the canisters prior to shipment are summarized in Pace's laboratory reports included in Appendix D. Pace noted in their analytical reports produced for this project QC issues associated with estimated results due to calibration ranges, relative percentage difference's (RPD) outside control limits for laboratory duplicates, problems with calibration and problems with analyte recovery in laboratory control samples. AMEC obtained a duplicate air sample collection set up from Pace in order to collect a duplicate during the final Barton crawl space air sampling event. Sample CSA-7 is a duplicate of sample CSA-5. In order to collect a duplicate for an air sample, the laboratory provides a regulator capable of filling two canisters at once within the specific sampling period. The duplicate sample set up has one intake and one regulator attached to two canisters. There did not appear to be any problems during field setup and sample collection. The

canisters started with an initial vacuum of 29 psi and a final vacuum of 3 psi indicating normal operation during the sampling event. When comparing the duplicate samples, the relative percent difference (RPD) varies from 0 to 178.6 with 10 compounds having RPD's over 100; however, none of the compounds of concern in groundwater were detected in either of the duplicate samples, and therefore the data for the compounds of concern does not appear to have been affected by the variation in sample results.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The lateral extent of CVOC impacts in shallow zone groundwater has been defined in the area of the residential properties east of the RBTC LDB#1 site, and the groundwater plume in the shallow zone does not appear to extend beyond Salt River Road. As outlined in the January 30, 2012 Updated Work Plan for Additional Corrective Action Investigations (Work Plan), AMEC recommends installing up to three permanent wells in the shallow zone on the residential properties in order to continue monitoring groundwater to the east of the former RBTC property. These wells will be installed in accordance with the scope outlined in the Work Plan. The locations for the new monitoring wells will be determined after review and compilation of the second quarter groundwater sample results. AMEC will provide a map depicting the recommended locations for the new wells in the second quarter groundwater monitoring report.

Groundwater contamination in the shallow zone is assumed to be present under the house located on the Cirillo property and is confirmed to be present near or under the house located on the Barton property. Based on the results of the recent investigation, shallow zone groundwater contamination is not present under the Kiper or Hack residential structures. Because of the presence of impacts in groundwater near two occupied residential structures, AMEC conducted a soil gas and crawl space air sampling to further investigate the potential for vapor intrusion. The vapor intrusion sampling focused on the Barton property, the only property that AMEC has access to which has an occupied house within the shallow plume area.

Recent USEPA guidance (Superfund Vapor Intrusion FAQs, USEPA, 2012) provides for a multiple lines of evidence evaluation of the groundwater to indoor air (vapor intrusion (VI)) pathway. By using the multiple lines of evidence approach, it can be determined whether the VI exposure pathway is complete and whether any elevated levels of contaminants in indoor air are likely caused by subsurface VI, an indoor source (consumer product), or an outdoor source. The groundwater to indoor air pathway does not appear to be complete at the Barton property based on the multiple lines of evidence from the soil gas and crawl space air sampling events.

- None of the groundwater constituents found in the vicinity of the Barton residence were detected in soil gas at concentrations exceeding the conservative screening criteria of 10 times the residential RSLs (corresponding to an attenuation factor of 0.1).
- There appears to be a source other than shallow groundwater for some CVOCs, since carbon tetrachloride has not been detected in the majority of the groundwater samples submitted for analysis, and has been consistently detected in ambient and crawl space air, as well as soil gas.
- The CVOCs identified in the crawl space (which are found in groundwater) were also identified within the same order of magnitude in ambient air samples collected at the same time, indicating that concentrations in the crawl space air (sampled twice) beneath the Barton residence are not significantly elevated compared to background.

The concentrations of CVOCs detected in the crawl space air samples were further evaluated by performing an additive risk calculation. In this calculation, the detected concentrations of each compound are first normalized by dividing them by their respective RSLs (each based on 10^{-6} risk), and then added together. If the sum is less than 100, the additive risk is less than the target cumulative risk of 10^{-4}. In the case of the Barton Crawl space samples, the sums of normalized concentrations range from zero to 14.7 x 10 -6 or rounded to one significant figure per USEPA risk assessment guidance – 1 x 10^{-5} total cumulative risk. The normalized concentration ranges are summarized on Table 14. It can be concluded that, while individual CVOC compounds may exceed the 10^{-6} risk level, the cumulative risk from these compounds (in local ambient air as well as the Barton crawl space air) is still well below a total cumulative risk target level of 10^{-4}.

Other VOCs, primarily petroleum-related, were identified in the crawl space air samples. However, these compounds have not generally been found in groundwater or ambient air, and are likely related to a source within the Barton residence that is most likely temporary. Therefore, they were not included in the cumulative risk calculation. No further work is recommended at this time to evaluate the VI pathway at the Barton residence.

In addition, given the lateral extent of groundwater contamination in the shallow zone, the locally shallow groundwater conditions on the Hack property, and the fact that the Kiper

residence is unoccupied and in poor condition, no further vapor intrusion assessment is recommended at the Hack or Kiper properties.

6.0 QUALIFICATIONS OF REPORT

Our report presents a summary of information known to AMEC concerning the project site which AMEC considered pertinent to the scope of work and stated project objective. AMEC has assembled data produced by itself and others and used that information to make analyses of site conditions. AMEC has performed this investigation with the care and skill ordinarily used by members of the environmental consulting profession practicing under similar conditions. The activities and evaluative approaches used in this assessment are consistent with those normally employed in environmental assessments and waste-management projects of this type. Our evaluation of site conditions is based on our understanding of the site and project information and the data obtained in our assessment. The general subsurface conditions utilized in our evaluation have been based on interpolation of subsurface data between the sampling locations. The conclusions presented herein are those that are deemed pertinent by AMEC based upon the assumed accuracy of the available information. No other warranty, expressed or implied, is made as to the professional advice included in this report. The information presented in this report is not intended for any use other than the stated objectives of the project.

Table 1
Soil Gas Sampling Point Construction Details
April - June 2012 Vapor Intrusion Investigation
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Soil Gas Point Identification	Installation Date	Residential Structure	Location	Surface Material Boring Completed In	Screened Interval (ft bgs)	Sand Pack Interval (ft bgs)	Total Boring Depth (ft bgs)	Boring Refusal on Bedrock Y/N?
SG-1	4/30/2012	Barton	Near NW corner structure beside porch in backyard	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-2	4/30/2012	Barton	Near NE corner of structure beside porch in backyard	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-3	4/30/2012	Barton	Along eastern side of the house (southern boring)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-4	4/30/2012	Barton	Along eastern side of the house (northern boring)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-5	4/30/2012	Barton	Near SE corner of the structure along front porch	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-6	4/30/2012	Barton	Along west side of the house (southern boring)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-7	4/30/2012	Barton	Along west side of the house (northern boring)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-8	5/24/2012	Hack	Along northern side of house (central portion)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-9	5/24/2012	Hack	Along western side of house (near NW corner)	Grass/Lawn with some gravel	1.4-1.9	1.25-3	2	N
SG-10	5/24/2012	Hack	Along southern side of house (near SE corner)	Grass/Lawn	2.4-2.9	2.25-3	3	N
SG-11	5/24/2012	Hack	Along eastern side of the house (near NE corner)	Grass/Lawn	2.4-2.9	2.25-3	3	N

Notes:
SG - Soil Gas
ft bgs - feet below ground surface

Prepared by: SMD 6/21/12
Checked by: MOR 6/27/12

Table 2
Results of Flow, Pressure, Leak and Multi-Gas Testing
April - June 2012 Vapor Intrusion Investigation
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Soil Gas Point Identification	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7	SG-8	SG-9	SG-10	SG-11
Sample Location Test Date	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/25/2012	5/25/2012	5/25/2012	5/25/2012
Flow and Pressure Testing											
Pressure (inches water)	0.20	0.16	0.20	0.16	0.19	0.17	0.10	0.16	0.14	--	0.14
Flow Rate (L/min)	1	1	1	1	1	1	1	1	1	--	1
Leak Detection											
Helium (ppm)	0	0	0	0	0	0	0	0	0	--	0
Multi-Gas Detection (%)											
Methane	0	0	0	0	0	0	0	0	0	--	0
Carbon Dioxide	0.3	2.2	0	0.9	4.3	1.7	1.8	0.3	3.0	--	1.5
Oxygen	19.1	14.1	19.4	19.3	17.1	16.7	17.1	18.4	14.7	--	17.8
Vapor Detection (ppm)											
PID	0.3	0.5	0.6	0.5	0.5	0.4	0.5	1.0	1.3	--	1.1

Prepared by: SMD 6/21/12
Checked by: MOR 6/27/12

Notes:
PID - Photoionization detector - MiniRAE 2000, with a detection limit of 0.1 parts per million by volume (ppmv), calibrated to 100 ppmv isobutylene.
L/min - liters per minute
ppm - parts per million
-- Leak testing not conducted due to water in soil gas point

Table 3
Vapor Intrusion Sample Identification and Analysis Summary
April - June 2012 Vapor Intrusion Investigation
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Sample Point Location Identification	Sample Type	Sample Date	Property	Sample Location	Analysis Method
SG-1	Soil Gas	5/2/2012	Barton	Northern Side (W)	TO-15 SIM/3C Gases
SG-2	Soil Gas	5/2/2012	Barton	Northern Side (E)	TO-15 SIM/3C Gases
SG-3	Soil Gas	5/2/2012	Barton	Eastern Side (S)	TO-15 SIM/3C Gases
SG-4	Soil Gas	5/2/2012	Barton	Eastern Side (N)	TO-15 SIM/3C Gases
SG-5	Soil Gas	5/2/2012	Barton	Southern Side	TO-15 SIM/3C Gases
SG-6	Soil Gas	5/2/2012	Barton	Western Side (S)	TO-15 SIM/3C Gases
SG-7	Soil Gas	5/2/2012	Barton	Western Side (N)	TO-15 SIM/3C Gases
IA-1	Indoor Air	5/2/2012	RBTC	NE portion of building	TO-15 SIM/3C Gases
IA-2	Indoor Air	5/2/2012	RBTC	Henry Filter Pit room	TO-15 SIM/3C Gases
IA-3	Indoor Air	5/2/2012	RBTC	SW portion of building	TO-15 SIM/3C Gases
IA-4	Indoor Air	5/2/2012	RBTC	SE portion of building	TO-15 SIM/3C Gases
Exterior	Outdoor Ambient	5/2/2012	--	South side of building	TO-15 SIM/3C Gases
CSA-1	Indoor Air	5/24/2012	Barton	NW Corner Crawl	TO-15 SIM/3C Gases
CSA-2	Indoor Air	5/24/2012	Barton	South Portion Crawl	TO-15 SIM/3C Gases
CSA-3	Indoor Air	5/24/2012	Barton	NE Corner Crawl	TO-15 SIM/3C Gases
CSA-4	Indoor Air	6/13/2012	Barton	NW Corner Crawl	TO 15/TO-15 SIM/3C Gases
CSA-5	Indoor Air	6/13/2012	Barton	South Portion Crawl	TO 15/TO-15 SIM/3C Gases
CSA-6	Indoor Air	6/13/2012	Barton	NE Corner Crawl	TO 15/TO-15 SIM/3C Gases
CSA-7	Indoor Air - Duplicate	6/13/2012	Barton	NE Corner Crawl	TO 15/TO-15 SIM/3C Gases
Background-1	Outdoor Ambient	5/24/2012	--	South of Kelly Street - Hack property	TO-15 SIM/3C Gases
Background-2	Outdoor Ambient	6/13/2012	--	North of Barton House	TO 15/TO-15 SIM/3C Gases

Prepared by: SMD 6/21/12
Checked by: MOR 6/27/12

Table 4
Sample Specific Canister and Regulator Data
April - June 2012 Vapor Intrusion Investigation
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Sample Point Location Identification	Canister Number	Regulator Number	Canister Initial Vacuum	Sample Start Time	Canister Final Vacuum	Sample End Time
SG-1	0255	FC0324	28.5	06:23	1	14:25
SG-2	0466	FC0288	28	06:24	0.5	14:23
SG-3	0253	FC0281	28	06:24	2.5	14:26
SG-4	1640	FC0130	27.5	06:25	3	14:26
SG-5	1658	FC0215	30	06:26	3.5	14:27
SG-6	0226	FC0216	28	06:27	1.5	14:27
SG-7	0640	FC0361	26	06:27	1.5	14:27
IA-1	1623	FC0287	29	07:05	1	15:06
IA-2	0979	FC0374	28.5	07:06	2	15:07
IA-3	0735	FC0068	30	07:06	2	15:08
IA-4	1287	FC0078	30	07:07	5	15:09
Exterior	1520	FC0400	26	07:02	2	15:02
CSA-1	1674	FC0285	26	08:09	0	15:51
CSA-2	0682	FC0395	27	08:04	2	15:50
CSA-3	1089	FC0257	30	08:05	0.5	15:49
CSA-4	0057	FC0289	26	07:33	0.5	16:05
CSA-5	1524	FC0137	29	07:37	3	16:06
CSA-6	0429	FC0369	26	07:35	3.5	16:07
CSA-7	1528	FC0137	29	07:37	3	16:06
Background-1	0708	FC0708	30	08:12	4	15:53
Background-2	0582	FC0066	25	07:43	3.5	16:09

Prepared by: VM 6/27/12
Checked by: MOR 6/27/12

Table 5
Summary of Soil Gas Sample Results - Barton Property
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Matrix	Units	Method	Screening Level	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7
Carbon dioxide	Air	%	3C	--	<2.6	**2.8**	<2.0	**2.0**	**3.2**	**2.3**	**3.8**
Methane	Air	%	3C	--	<5.1	<4.0	<4.0	<3.9	<3.7	<4.1	<4.0
Oxygen	Air	%	3C	--	**18.4**	**10.6**	**17.5**	**17.1**	**12.1**	**12.8**	**12.9**
1,1,1-Trichloroethane	Air	µg/m^3	TO-15 SIM	5,200	<0.077	<0.11	<0.11	<0.080	<0.080	<0.080	<0.11
1,1,2,2-Tetrachloroethane	Air	µg/m^3	TO-15 SIM	0.42	<0.097	<0.13	<0.14	<0.10	<0.10	<0.10	<0.14
1,1,2-Trichloroethane	Air	µg/m^3	TO-15 SIM	1.5	<0.077	<0.11	<0.11	<0.080	<0.080	<0.080	<0.11
1,1-Dichloroethane	Air	µg/m^3	TO-15 SIM	15	<0.057	<0.079	**0.41**	<0.059	<0.059	<0.059	**0.31**
1,1-Dichloroethene	Air	µg/m^3	TO-15 SIM	2,100	<0.056	<0.078	**0.39**	<0.058	<0.058	<0.058	<0.081
1,2-Dichloroethane	Air	µg/m^3	TO-15 SIM	0.94	**0.31**	**0.25**	**0.17**	**0.22**	**0.12**	**0.25**	**0.35**
Carbon tetrachloride	Air	µg/m^3	TO-15 SIM	4.1	**2.8**	**1.4**	**1.3**	**1.0**	**0.86**	**1.3**	**1.1**
Tetrachloroethene	Air	µg/m^3	TO-15 SIM	4.1	**3.1** E	**2.6** E	**1.5**	**2.4** E	**0.71**	**2.3** E	**1.4**
Trichloroethene	Air	µg/m^3	TO-15 SIM	12	**1.7**	**1.4**	**2.9**	**9.9**	**10.3**	**1.7**	**6.0**
Vinyl chloride	Air	µg/m^3	TO-15 SIM	1.6	<0.036	<0.050	<0.054	<0.037	<0.037	<0.037	<0.052
cis-1,2-Dichloroethene	Air	µg/m^3	TO-15 SIM	--	<0.056	<0.078	**0.083**	<0.058	<0.058	<0.058	<0.081
trans-1,2-Dichloroethene	Air	µg/m^3	TO-15 SIM	630	<0.056	<0.078	<0.083	<0.058	<0.058	<0.058	<0.081

Prepared by: TMH 5/9/12
Checked by: SMD 5/9/12

Notes:
E - Analyte concentration exceeded the calibration range. The reported result is estimated.
Screening Level - USEPA Regional Screening Levels for Residential Air (June 2011) adjusted and accounting for an attenuation factor of 0.1 between soil gas and indoor air.

Table 6
Summary of Background Air Sample Results - May - June 2012
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Units	Res Air RSL June 2011	KY Min	KY Max	KY Median	KY Average	KY Number of Data Points	Exterior	Bckgd-1	Bckgd-2
Date								5/2/2012	5/24/2012	6/13/2012
1,1,1-Trichloroethane	µg/m³	5,200	--	--	--	--	--	<0.13	<0.086	<0.083
1,1,2,2-Tetrachloroethane	µg/m³	0.042	0.065	0.065	0.065	0.065	1	<0.16	<0.11	<0.10
1,1,2-Trichloroethane	µg/m³	0.15	0.041	0.089	0.062	0.063	9	<0.13	<0.086	<0.083
1,1-Dichloroethane	µg/m³	1.5	0.057	0.057	0.057	0.057	1	<0.095	<0.064	<0.061
1,1-Dichloroethene	µg/m³	210	0.024	0.040	0.028	0.031	3	<0.093	<0.062	<0.060
1,2-Dichloroethane	µg/m³	0.094	--	--	--	--	--	<0.095	**0.11**	**0.23**
Carbon tetrachloride	µg/m³	0.41	0.132	1.520	0.692	0.699	230	**0.71**	**1.0**	**0.86**
Tetrachloroethene	µg/m³	0.41	--	--	--	--	--	**2.2**	**0.34**	**0.15**
Trichloroethene	µg/m³	1.2	0.038	0.419	0.048	0.079	17	**1.1**	**1.4**	**0.83**
Vinyl chloride	µg/m³	0.16	0.010	6.970	0.291	0.553	33	**0.065**	<0.040	<0.039
cis-1,2-Dichloroethene	µg/m³	--	--	--	--	--	--	<0.093	<0.062	<0.060
trans-1,2-Dichloroethene	µg/m³	63	--	--	--	--	--	<0.093	<0.062	<0.060
1,1,2-Trichlorotrifluoroethane	µg/m³	31,000	--	--	--	--	--	--	--	<2.4
1,2,4-Trichlorobenzene	µg/m³	2.1	0.037	0.223	0.071	0.081	10	--	--	<1.5
1,2,4-Trimethylbenzene	µg/m³	7.3	0.029	1.838	0.152	0.215	195	--	--	<1.5
1,2-Dibromoethane (EDB)	µg/m³	0.0041	0.046	17.500	0.093	1.110	117	--	--	<2.3
1,2-Dichlorobenzene	µg/m³	210	0.018	0.072	0.036	0.043	19	--	--	<1.8
1,2-Dichloropropane	µg/m³	0.24	--	--	--	--	--	--	--	<1.4
1,3,5-Trimethylbenzene	µg/m³	--	0.015	0.516	0.074	0.089	170	--	--	<1.5
1,3-Butadiene	µg/m³	0.08	0.018	4.840	0.049	0.152	157	--	--	<0.67
1,3-Dichlorobenzene	µg/m³	--	0.036	0.108	0.051	0.061	8	--	--	<1.8
1,4-Dichlorobenzene	µg/m³	0.22	0.018	0.180	0.054	0.063	65	--	--	<1.8
2-Butanone (MEK)	µg/m³	5,200	0.469	8.671	1.395	1.686	153	--	--	**1.1**
2-Hexanone	µg/m³	31	--	--	--	--	--	--	--	<1.2
2-Propanol	µg/m³	7,300	--	--	--	--	--	--	--	<3.7
4-Ethyltoluene	µg/m³	--	--	--	--	--	--	--	--	<1.5
4-Methyl-2-pentanone (MIBK)	µg/m³	3,100	--	--	--	--	--	--	--	<1.2
Acetone	µg/m³	32,000	--	--	--	--	--	--	--	**5.4**
Benzene	µg/m³	0.31	0.217	16	0.601	1.164	280	--	--	<0.48
Benzyl chloride	µg/m³	0.050	0.036	0.036	0.036	0.036	1	--	--	<1.6
Bromodichloromethane	µg/m³	0.066	0.040	0.087	0.064	0.064	6	--	--	<2.0
Bromoform	µg/m³	2.2	0.062	0.134	0.083	0.091	15	--	--	<3.1
Bromomethane	µg/m³	5.2	0.027	0.171	0.047	0.049	138	--	--	<1.2
Carbon disulfide	µg/m³	730	0.022	5.948	0.075	0.672	194	--	--	<0.94
Chlorobenzene	µg/m³	52	0.037	0.097	0.044	0.051	8	--	--	<1.4

Table 6
Summary of Background Air Sample Results - May - June 2012
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Units	Res Air RSL June 2011	KY Min	KY Max	KY Median	KY Average	KY Number of Data Points	Exterior	Bckgd-1	Bckgd-2
Date								5/2/2012	5/24/2012	6/13/2012
Chloroethane	µg/m³	10,000	0.016	0.119	0.029	0.043	25	--	--	<0.80
Chloroform	µg/m³	0.11	0.049	1.020	0.098	0.122	118	--	--	<1.5
Chloromethane	µg/m³	94	0.719	1.978	1.196	1.213	199	--	--	**0.97**
Cyclohexane	µg/m³	6,300	--	--	--	--	--	--	--	<1.0
Dibromochloromethane	µg/m³	0.090	0.017	0.102	0.055	0.055	30	--	--	<2.6
Dichlorodifluoromethane	µg/m³	100	1.909	3.699	2.695	2.740	199	--	--	**2.9**
Dichlorotetrafluoroethane	µg/m³	--	--	--	--	--	--	--	--	<2.1
Ethanol	µg/m³	--	--	--	--	--	--	--	--	**2.3**
Ethyl acetate	µg/m³	--	--	--	--	--	--	--	--	<1.1
Ethylbenzene	µg/m³	1.0	0.035	0.994	0.135	0.178	199	--	--	<1.3
Hexachloro-1,3-butadiene	µg/m³	0.11	0.032	0.149	0.085	0.089	19	--	--	<3.3
Methyl-tert-butyl ether	µg/m³	9.4	1.909	3.699	2.695	2.740	199	--	--	<1.1
Methylene Chloride	µg/m³	5.2	--	--	--	--	--	--	--	<1.1
Naphthalene	µg/m³	0.072	--	--	--	--	--	--	--	<1.6
Propylene	µg/m³	3,100	0.184	12.942	0.503	0.887	199	--	--	<0.52
Styrene	µg/m³	1,000	0.034	0.469	0.102	0.121	167	--	--	<1.3
Tetrahydrofuran	µg/m³	--	--	--	--	--	--	--	--	<0.89
Toluene	µg/m³	5,200	0.237	5.577	0.603	0.882	199	--	--	<1.1
Trichlorofluoromethane	µg/m³	730	--	--	--	--	--	--	--	<1.7
Vinyl acetate	µg/m³	210	--	--	--	--	--	--	--	<1.1
cis-1,3-Dichloropropene	µg/m³	--	0.095	0.095	0.095	0.095	1	--	--	<1.4
m&p-Xylene	µg/m³	100	--	--	--	--	--	--	--	<2.6
n-Heptane	µg/m³	--	--	--	--	--	--	--	--	<1.2
n-Hexane	µg/m³	730	--	--	--	--	--	--	--	<1.1
o-Xylene	µg/m³	100	0.039	1.985	0.183	0.265	199	--	--	<1.3
trans-1,3-Dichloropropene	µg/m³	--	--	--	--	--	--	--	--	<1.4

Prepared by: TMH 6/19/12
Checked by: SMD 6/19/12

Notes:
KY - These data were compiled using data stations maintained by the Kentucky Department for Air Quality and entered into the Air Quality System (AQS) database.
The AQS is U.S. EPA's repository of ambient air quality data. The database was queried for data for the period from January 1, 1966 through May 31, 2012.
The minimum, maximum, median, average were calculated from the data provided. A count of the data points used for the calculations is also provided.
USEPA Regional Screening Level (RSL) Summary Table, June 2011, Residential Air (exceedances shaded in yellow)
--Not Analyzed or Not Available

Table 7
Summary of Indoor Air Sample Results - Main Plant Building
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Matrix	Units	Method	Screening Level	Exterior	IA-1	IA-2	IA-3	IA-4
Carbon dioxide	Air	%	3C	--	<2.0	<1.8	<2.0	<2.1	<2.3
Methane	Air	%	3C	--	<4.0	<3.7	<4.1	<4.3	<4.5
Oxygen	Air	%	3C	--	**16.6**	**15.6**	**19.1**	**18.9**	**18.2**
1,1,1-Trichloroethane	Air	µg/m^3	TO-15 SIM	22,000	<0.13	<0.10	**0.094**	<0.083	<0.086
1,1,2,2-Tetrachloroethane	Air	µg/m^3	TO-15 SIM	0.21	<0.16	**0.14**	**0.32**	**0.22**	**0.25**
1,1,2-Trichloroethane	Air	µg/m^3	TO-15 SIM	0.77	<0.13	<0.10	<0.077	<0.083	<0.086
1,1-Dichloroethane	Air	µg/m^3	TO-15 SIM	7.7	<0.095	<0.076	<0.057	<0.061	<0.064
1,1-Dichloroethene	Air	µg/m^3	TO-15 SIM	880	<0.093	<0.075	<0.056	<0.060	<0.062
1,2-Dichloroethane	Air	µg/m^3	TO-15 SIM	0.47	<0.095	<0.076	**0.076**	**0.080**	**0.091**
Carbon tetrachloride	Air	µg/m^3	TO-15 SIM	2.0	**0.71**	**0.73**	**0.81**	**0.87**	**1.0**
Tetrachloroethene	Air	µg/m^3	TO-15 SIM	2.1	**2.2**	**0.32**	**0.60**	**36.9**	**0.41**
Trichloroethene	Air	µg/m^3	TO-15 SIM	6.1	**1.1**	**3.0**	**13.4**	**5.7**	**5.4**
Vinyl chloride	Air	µg/m^3	TO-15 SIM	2.8	**0.065**	<0.048	**0.17**	<0.039	**0.088**
cis-1,2-Dichloroethene	Air	µg/m^3	TO-15 SIM	--	<0.093	**1.6 E**	**1.7**	**1.7**	**1.4**
trans-1,2-Dichloroethene	Air	µg/m^3	TO-15 SIM	260	<0.093	<0.075	<0.056	<0.060	<0.062

Prepared by: TMH 5/9/12
Checked by: SMD 5/9/12

Notes:
E - Analyte concentration exceeded the calibration range. The reported result is estimated.
Screening Level - U.S. EPA Regional Screening Level (RSL) Summary Table, June 2011, Industrial Air (Exceedances shaded in yellow)

Table 8
Summary of Crawl Space Air Sample Results - Barton Property
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Matrix	Units	Method	Res Air RSL June 2011	Bckgd-1	Bckgd-2	CSA-1	CSA-4	CSA-2	CSA-6	CSA-3	CSA-5	CSA-7 (DUP)
Sample Location							NW Corner Crawl Space		South Portion Crawl Space		NE Corner Crawl Space		
Sample Date					5/24/2012	6/13/2012	5/24/2012	6/13/2012	5/24/2012	6/13/2012	5/24/2012	6/13/2012	6/13/2012
Carbon dioxide	Air	%	3C	--	<2.9	<2.1	<3.7	<1.9	<2.6	<2.0	<3.4	<2.5	<2.5
Methane	Air	%	3C	--	<5.8	<4.2	<7.3	<3.8	<5.2	<4.0	<6.7	<5.1	<5.0
Oxygen	Air	%	3C	--	**20.4**	**16.8**	**22.3**	**20.3**	**17.3**	**18.8**	**20.3**	**21.1**	**21.3**
1,1,1-Trichloroethane	Air	µg/m³	TO-15 SIM	*5,200*	<0.086	<0.083	<0.080	<0.074	<0.080	<0.077	<0.080	<0.074	<0.074
1,1,2,2-Tetrachloroethane	Air	µg/m³	TO-15 SIM	*0.042*	<0.11	<0.10	<0.10	<0.094	<0.10	<0.097	<0.10	<0.094	<0.094
1,1,2-Trichloroethane	Air	µg/m³	TO-15 SIM	*0.15*	<0.086	<0.083	<0.080	<0.074	<0.080	<0.077	<0.080	<0.074	<0.074
1,1-Dichloroethane	Air	µg/m³	TO-15 SIM	*1.5*	<0.064	<0.061	<0.059	<0.055	<0.059	<0.057	<0.059	<0.055	<0.055
1,1-Dichloroethene	Air	µg/m³	TO-15 SIM	*210*	<0.062	<0.060	<0.058	<0.054	<0.058	<0.056	<0.058	<0.054	<0.054
1,2-Dichloroethane	Air	µg/m³	TO-15 SIM	*0.094*	**0.11**	**0.23**	**0.66**	**0.64**	**0.67**	<0.057	**0.77**	<0.055	<0.055
Carbon tetrachloride	Air	µg/m³	TO-15 SIM	*0.41*	**1.0**	**0.86**	**0.95**	**0.88**	**0.73**	<0.089	**0.79**	<0.086	<0.086
Tetrachloroethene	Air	µg/m³	TO-15 SIM	*0.41*	**0.34**	**0.15**	**0.90**	**0.22**	**0.35**	<0.096	**1.2**	<0.092	<0.092
Trichloroethene	Air	µg/m³	TO-15 SIM	*1.2*	**1.4**	**0.83**	**1.6**	**0.49**	**0.43**	<0.038	**2.0**	<0.037	<0.037
Vinyl chloride	Air	µg/m³	TO-15 SIM	*0.16*	<0.040	<0.039	<0.037	<0.035	<0.037	<0.036	<0.037	<0.035	<0.035
cis-1,2-Dichloroethene	Air	µg/m³	TO-15 SIM	--	<0.062	<0.060	<0.058	<0.054	<0.058	<0.056	<0.058	<0.054	<0.054
trans-1,2-Dichloroethene	Air	µg/m³	TO-15 SIM	*63*	<0.062	<0.060	**0.84**	**0.35**	**0.76**	<0.056	**1.1**	<0.054	<0.054
1,1,2-Trichlorotrifluoroethane	Air	µg/m³	TO-15	*31,000*	--	<2.4	--	<2.1	--	<2.2	--	<2.1	<2.1
1,2,4-Trichlorobenzene	Air	µg/m³	TO-15	*2.1*	--	<1.5	--	<1.3	--	<1.4	--	<1.3	<1.3
1,2,4-Trimethylbenzene	Air	µg/m³	TO-15	*7.3*	--	<1.5	--	<1.3	--	**12.1**	--	**26.0**	**211**
1,2-Dibromoethane (EDB)	Air	µg/m³	TO-15	*0.0041*	--	<2.3	--	<2.1	--	<2.2	--	<2.1	<2.1
1,2-Dichlorobenzene	Air	µg/m³	TO-15	*210*	--	<1.8	--	<1.6	--	<1.7	--	<1.6	<1.6
1,2-Dichloropropane	Air	µg/m³	TO-15	*0.24*	--	<1.4	--	<1.3	--	<1.3	--	<1.3	<1.3
1,3,5-Trimethylbenzene	Air	µg/m³	TO-15	--	--	<1.5	--	<1.3	--	**3.5**	--	**5.7**	**101**
1,3-Butadiene	Air	µg/m³	TO-15	*0.08*	--	<0.67	--	<0.60	--	<0.63	--	<0.60	<0.60
1,3-Dichlorobenzene	Air	µg/m³	TO-15	--	--	<1.8	--	<1.6	--	<1.7	--	<1.6	<1.6
1,4-Dichlorobenzene	Air	µg/m³	TO-15	*0.22*	--	<1.8	--	<1.6	--	<1.7	--	<1.6	<1.6
2-Butanone (MEK)	Air	µg/m³	TO-15	*5,200*	--	**1.1**	--	**1.1**	--	**5.0**	--	**1.6**	**2.3**
2-Hexanone	Air	µg/m³	TO-15	*31*	--	<1.2	--	<1.1	--	**1.4**	--	<1.1	<1.1
2-Propanol	Air	µg/m³	TO-15	*7,300*	--	<3.7	--	**33.6**	--	**45.9**	--	**7.2**	**12.4**
4-Ethyltoluene	Air	µg/m³	TO-15	--	--	<1.5	--	<1.3	--	**3.8**	--	**8.8**	**89.1**
4-Methyl-2-pentanone (MIBK	Air	µg/m³	TO-15	*3,100*	--	<1.2	--	<1.1	--	**21.3**	--	<1.1	<1.1
Acetone	Air	µg/m³	TO-15	*32,000*	--	**5.4**	--	**23.4**	--	**36.5**	--	**13.6**	**18.4**
Benzene	Air	µg/m³	TO-15	*0.31*	--	<0.48	--	<0.44	--	<0.45	--	<0.44	**1.8**
Benzyl chloride	Air	µg/m³	TO-15	*0.050*	--	<1.6	--	<1.4	--	<1.5	--	<1.4	<1.4
Bromodichloromethane	Air	µg/m³	TO-15	*0.066*	--	<2.0	--	<1.8	--	<1.9	--	<1.8	<1.8
Bromoform	Air	µg/m³	TO-15	*2.2*	--	<3.1	--	<2.8	--	<2.9	--	<2.8	<2.8

Table 8
Summary of Crawl Space Air Sample Results - Barton Property
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Matrix	Units	Method	Res Air RSL June 2011	Bckgd-1	Bckgd-2	CSA-1	CSA-4	CSA-2	CSA-6	CSA-3	CSA-5	CSA-7 (DUP)
Sample Location							NW Corner Crawl Space		South Portion Crawl Space		NE Corner Crawl Space		
Sample Date					5/24/2012	6/13/2012	5/24/2012	6/13/2012	5/24/2012	6/13/2012	5/24/2012	6/13/2012	6/13/2012
Bromomethane	Air	µg/m³	TO-15	5.2	--	<1.2	--	<1.1	--	<1.1	--	<1.1	<1.1
Carbon disulfide	Air	µg/m³	TO-15	730	--	<0.94	--	<0.84	--	<0.88	--	<0.84	<0.84
Chlorobenzene	Air	µg/m³	TO-15	52	--	<1.4	--	<1.3	--	<1.3	--	<1.3	<1.3
Chloroethane	Air	µg/m³	TO-15	10,000	--	<0.80	--	<0.72	--	<0.75	--	<0.72	<0.72
Chloroform	Air	µg/m³	TO-15	0.11	--	<1.5	--	**6.8**	--	**7.7**	--	<1.3	<1.3
Chloromethane	Air	µg/m³	TO-15	94	--	**0.97**	--	<0.56	--	<0.58	--	<0.56	<0.56
Cyclohexane	Air	µg/m³	TO-15	6,300	--	<1.0	--	<0.91	--	<0.95	--	<0.91	<0.91
Dibromochloromethane	Air	µg/m³	TO-15	0.090	--	<2.6	--	<2.3	--	<2.4	--	<2.3	<2.3
Dichlorodifluoromethane	Air	µg/m³	TO-15	100	--	**2.9**	--	**2.7**	--	**2.8**	--	**2.7**	**2.9**
Dichlorotetrafluoroethane	Air	µg/m³	TO-15	--	--	<2.1	--	<1.9	--	<2.0	--	<1.9	<1.9
Ethanol	Air	µg/m³	TO-15	--	--	**2.3**	--	**37.1**	--	**69.8**	--	**3.8**	**41.8**
Ethyl acetate	Air	µg/m³	TO-15	--	--	<1.1	--	**4.8**	--	**6.0**	--	<0.98	**3.0**
Ethylbenzene	Air	µg/m³	TO-15	1.0	--	<1.3	--	<1.2	--	<1.2	--	**3.7**	**23.3**
Hexachloro-1,3-butadiene	Air	µg/m³	TO-15	0.11	--	<3.3	--	<2.9	--	<3.1	--	<2.9	<2.9
Methyl-tert-butyl ether	Air	µg/m³	TO-15	9.4	--	<1.1	--	<0.98	--	<1.0	--	<0.98	<0.98
Methylene Chloride	Air	µg/m³	TO-15	5.2	--	<1.1	--	**1.8**	--	**2.0**	--	<0.95	**1.3**
Naphthalene	Air	µg/m³	TO-15	0.072	--	<1.6	--	<1.4	--	**4.3**	--	**46.9**	**93.5**
Propylene	Air	µg/m³	TO-15	3,100	--	<0.52	--	<0.47	--	<0.49	--	<0.47	<0.47
Styrene	Air	µg/m³	TO-15	1,000	--	<1.3	--	<1.2	--	<1.2	--	<1.2	<1.2
Tetrahydrofuran	Air	µg/m³	TO-15	--	--	<0.89	--	<0.80	--	<0.83	--	<0.80	<0.80
Toluene	Air	µg/m³	TO-15	5,200	--	<1.1	--	**1.8**	--	**2.6**	--	**3.8**	**33.4**
Trichlorofluoromethane	Air	µg/m³	TO-15	730	--	<1.7	--	**1.9**	--	**2.0**	--	**1.6**	**1.6**
Vinyl acetate	Air	µg/m³	TO-15	210	--	<1.1	--	<0.95	--	<0.99	--	<0.95	<0.95
cis-1,3-Dichloropropene	Air	µg/m³	TO-15	--	--	<1.4	--	<1.2	--	<1.3	--	<1.2	<1.2
m&p-Xylene	Air	µg/m³	TO-15	100	--	<2.6	--	<2.4	--	**3.2**	--	**18.1**	**133**
n-Heptane	Air	µg/m³	TO-15	--	--	<1.2	--	<1.1	--	<1.2	--	**1.6**	**1.6**
n-Hexane	Air	µg/m³	TO-15	730	--	<1.1	--	<0.96	--	**1.1**	--	**1.8**	**1.5**
o-Xylene	Air	µg/m³	TO-15	100	--	<1.3	--	<1.2	--	**1.4**	--	**7.1**	**84.6**
trans-1,3-Dichloropropene	Air	µg/m³	TO-15	--	--	<1.4	--	<1.2	--	<1.3	--	<1.2	<1.2

Prepared by: SMD 6/19/12
Checked by: VM 6/19/12

Notes:
USEPA Regional Screening Level (RSL) Summary Table, June 2011, Residential Air (exceedances shaded in yellow)
USEPA Regional Screening Level (RSL) Summary Table, April 2012, Residential Air
-- Not Analyzed

Table 9
Summary of Groundwater Analytical Results, 2004-2012 - Former Supply Wells
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

				Field Sample ID	PW-1	PW-1	PW-1	PW-2	PW-2	KIPER WELL	HACK WELL
				Sample Collection Date	11/23/04	03/13/07	02/21/12	03/14/07	02/21/12	02/21/12	05/01/12
	Units	RSL	MCL								
Chlorinated Volatile Organic Compounds											
Tetrachloroethene	mg/L	*0.00011*	*0.005*		<0.005	<0.0050	<0.0010	<0.020	**0.0043**	**0.014**	<0.0010
Trichloroethene	mg/L	*0.0020*	*0.005*		<0.005	**0.034**	**0.0071**	**0.96**	**1.9**	**9.9**	**0.0030**
1,1-Dichloroethene	mg/L	*0.34*	*0.007*		**0.044**	**0.27**	**0.14**	**0.18**	**0.61**	**0.22** J	**0.32**
cis-1,2-Dichloroethene	mg/L	*0.073*	*0.07*		**0.0080**	**0.12**	**0.013**	**1.3**	**0.92**	**0.66**	**0.021**
trans-1,2-Dichloroethene	mg/L	*0.11*	*0.1*		<0.005	<0.0050	<0.0010	<0.020	**0.0042**	**0.014**	<0.0010
Vinyl Chloride	mg/L	*0.000016*	*0.002*		<0.005	<0.0050	**0.0033**	<0.020	**0.030**	**0.025**	**0.0076**
1,1,1-Trichloroethane	mg/L	*9.1*	*0.2*		<0.005	**0.0082**	**0.012**	<0.020	**0.0021**	**0.00078** J	**0.0026**
1,1,2-Trichloroethane	mg/L	*0.00024*	*0.005*		<0.005	<0.0050	<0.0010	<0.020	<0.0010	**0.00090** J	<0.0010
1,1-Dichloroethane	mg/L	*0.0024*	--		**0.070**	**0.31**	**0.15**	**0.13**	**0.17**	**0.055**	**0.061**
1,2-Dichloroethane	mg/L	*0.00015*	*0.005*		<0.005	<0.0050	**0.00074** J	<0.020	**0.0033**	**0.0014**	**0.0015**
Carbon Tetrachloride	mg/L	*0.00044*	*0.005*		<0.020	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
Total CVOCs	mg/L				***0.12***	***0.74***	**0.33**	**2.6**	**3.6**	***11***	***0.42***
Other Volatile Organic Compounds											
Acetone	mg/L	*22*	--		<0.025	<1.0	<0.050	<0.25	<0.050	<0.050	<0.050
Chloroform	mg/L	*0.00019*	*0.08*		<0.005	<0.10	<0.0050	<0.025	<0.0050	**0.00066** J	<0.0050
2-Butanone (MEK)	mg/L	*7.1*	--		<0.025	<0.20	<0.010	<0.050	<0.010	<0.010	<0.010
Methylene Chloride	mg/L	*0.0048*	*0.005*		<0.005	<0.10	<0.0050	<0.025	<0.0050	**0.0011** J	**0.0021** J
4-Methyl-2-pentanone (MIBK)	mg/L	*2.0*	--		<0.025	<0.20	<0.010	<0.050	<0.010	<0.010	<0.010
Benzene	mg/L	*0.00041*	*0.005*		<0.005	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
n-Butylbenzene	mg/L	*1.8*	--		<0.005	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
Ethylbenzene	mg/L	*0.0015*	*0.7*		<0.005	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
Isopropylbenzene	mg/L	*0.68*	--		---	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
Naphthalene	mg/L	*0.00014*	--		<0.005	<0.10	<0.0050	<0.025	<0.0050	<0.0050	<0.0050
Toluene	mg/L	*2.3*	*1*		<0.005	<0.10	**0.00039** J	<0.025	**0.00038** J	**0.00031** J	<0.0050
1,2,4-Trimethylbenzene	mg/L	*0.015*	--		<0.005	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
1,2,3-Trimethylbenzene	mg/L	*0.010*	--		---	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
1,3,5-Trimethylbenzene	mg/L	*0.37*	--		<0.005	<0.020	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010
Xylenes, Total	mg/L	*0.20*	*10*		<0.015	<0.060	<0.0030	<0.015	<0.0030	<0.0030	<0.0030

Prepared by TMH 5/9/12
Checked by SMD 5/9/12

Notes:
mg/L Milligrams per liter
--- Not analyzed, not established, or not available
MCL USEPA Maximum Contaminant Level, or Action Level, for drinking water
RSL U.S. EPA Regional Screening Level (June 2011)
Detected values are indicated in **bold**
Values exceeding the MCL (or, if no MCL is established, the tap water RSL) are shaded
See laboratory reports for information on laboratory qualifiers
"*Total CVOCs*" is calculated as the sum of the CVOC values, non-detects are counted as zero
Laboratory Qualifiers:
J (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Table 10
Bedrock Surface Elevation Summary
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Boring ID	Drilling Type	Estimated Ground Surface Elevation (ft NAVD)	Depth To Refusal (ft BGS)	Estimated Refusal Elevation (ft NAVD)	Depth to Top of Bedrock (ft BGS)	Estimated Top of Bedrock Elevation (ft NAVD)
TW-1	HSA	709.5	14.0	695.5	R	695.5
TW-2	HSA	704.0	10.0	694.0	R	694.0
TW-3	HSA	704.0	11.0	693.0	R	693.0
TW-4	HSA	704.0	14.0	690.0	R	690.0
TW-5	DPT	711.2	13.3	697.9	12.0	699.2
TW-6	DPT	711.2	12.0	699.2	11.8	699.4
TW-7	DPT	711.2	11.8	699.5	11.5	699.7
TW-8	DPT	711.2	12.0	699.2	10.2	701.0
TW-9	DPT	711.2	11.0	700.2	8.0	703.2
TW-10	DPT	711.2	11.0	700.2	10.5	700.7
TW-11	DPT	711.2	16.0	695.2	15.5	695.7
TW-12	DPT	711.2	15.0	696.2	14.0	697.2
TW-13	DPT	711.2	14.8	696.4	14.5	696.7
TW-14	DPT	711.2	14.0	697.2	14.0	697.2
TW-15	DPT	711.2	15.9	695.3	15.5	695.7
SB-1	DPT	710.5	7.0	703.5	R	703.5
SB-2	HA	710.5	5+	<705.5	5+	<705.5
SB-3	HA	710.5	5+	<705.5	5+	<705.5
SB-4	HA	711.3	5+	<706.3	5+	<706.3
SB-5	HA	711.3	6+	<705.3	6+	<705.3
SB-6	HA	711.3	5+	<706.3	5+	<706.3
SB-7	HA	711.2	7+	<704.2	7+	<704.2
SB-8	HA	711.2	5+	<706.2	5+	<706.2
SB-9	HA	711.2	5+	<706.2	5+	<706.2
SB-10	HA	711.2	3*	--	--	--
GP-1	DPT	710.5	10+	<700.5	10+	<700.5
GP-2	DPT	710.5	10+	<700.5	10+	<700.5
GP-3	DPT	710.5	10+	<700.5	10+	<700.5
GP-4	DPT	710.5	10+	<700.5	10+	<700.5
GP-5	DPT	710.5	10+	<700.5	10+	<700.5
GP-6	DPT	710.5	10+	<700.5	10+	<700.5
GP-7	DPT	710.5	10+	<700.5	10+	<700.5
GP-8	DPT	710.5	10+	<700.5	10+	<700.5
GP-9	DPT	710.5	10+	<700.5	10+	<700.5
GP-10	DPT	711.2	10+	<700.5	10+	<700.5
GP-11	DPT	711.2	8.5	702.7	R	702.7
GP-12	DPT	711.2	9.0	702.2	R	702.2
GP-13	DPT	711.2	8.0	703.2	R	703.2
GP-14	DPT	711.2	8.0	703.2	R	703.2
GP-15	DPT	711.2	8.0	703.2	R	703.2

Table 10
Bedrock Surface Elevation Summary
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Boring ID	Drilling Type	Estimated Ground Surface Elevation (ft NAVD)	Depth To Refusal (ft BGS)	Estimated Refusal Elevation (ft NAVD)	Depth to Top of Bedrock (ft BGS)	Estimated Top of Bedrock Elevation (ft NAVD)
GP-16	DPT	711.2	8.0	703.2	R	703.2
GP-17	DPT	711.2	8.0	703.2	R	703.2
GP-18	DPT	711.2	8.0	703.2	R	703.2
GP-19	DPT	711.3	10+	<701.3	10+	<701.3
GP-20	DPT	711.3	15+	<696.3	15+	<696.3
GP-21	DPT	711.3	10+	<701.3	10+	<701.3
GP-22	DPT	711.3	10+	<701.3	10+	<701.3
GP-23	DPT	711.2	8.0	703.2	R	703.2
GP-24	DPT	711.2	8.5	702.7	R	702.7
GP-25	DPT	711.2	8.0	703.2	R	703.2
GP-26	DPT	711.2	10+	<701.2	10+	<701.2
GP-27	DPT	711.3	20+	<691.3	20+	<691.3
GP-28	DPT	711.3	20.5	690.8	R	690.8
GP-29	DPT	711.3	17.5	693.8	R	693.8
GP-30	DPT	709.1	18.5	690.6	15.0	694.1
GP-31	DPT	711.3	15+	<696.3	11.5	699.8
GP-32	DPT	711.2	10+	<701.2	6.5	704.7
GP-33	DPT	711.2	10+	<701.2	8.0	703.2
GP-34	DPT	711.3	5.0	706.3	4.0	707.3
GP-35	DPT	711.2	8.0	703.2	6.0	705.2
GP-36	DPT	711.3	9.0	702.3	8.0	703.3
GP-37	DPT	711.3	14.0	697.3	13.8	697.5
GP-38	DPT	711.3	15+	<696.3	14.0	697.3
GP-39	DPT	711.3	14.0	697.3	13.7	697.6
GP-40	DPT	711.2	12.0	699.2	11.5	699.7
GP-41	DPT	711.2	14.0	697.2	12.0	699.2
GP-42	DPT	711.2	10+	<701.2	11.0	700.2
GP-43	DPT	711.2	9.0	702.2	8.0	703.2
GP-44	DPT	711.2	8.5	702.7	8.0	703.2
GP-45	DPT	711.2	8.5	702.7	8.2	703.0
GP-46	DPT	711.3	10+	<701.3	8.0	703.3
GP-47	DPT	711.3	9.5	701.8	8.0	703.3
GP-48	DPT	711.2	6.5	704.7	5.5	705.7
GP-49	DPT	710.4	1*	--	--	--
GP-50	DPT	711.3	18.5	692.8	R	692.8
GP-51	DPT	711.3	15+	<696.3	18.5	692.8
GP-52	DPT	711.3	9.0	702.3	7.5	703.8
GP-53	DPT	711.3	16.0	695.3	15.0	696.3
GP-54	DPT	711.3	14.0	697.3	13.5	697.8
GP-55	DPT	711.0	5.5	705.5	5.0	706.0

Table 10
Bedrock Surface Elevation Summary
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Boring ID	Drilling Type	Estimated Ground Surface Elevation (ft NAVD)	Depth To Refusal (ft BGS)	Estimated Refusal Elevation (ft NAVD)	Depth to Top of Bedrock (ft BGS)	Estimated Top of Bedrock Elevation (ft NAVD)
GP-56	DPT	711.0	5.0	706.0	4.0	707.0
GP-57	DPT	710.5	6.5	704.0	6.0	704.5
GP-58	DPT	710.5	9.0	701.5	8.0	702.5
GP-59	DPT	710.0	7.0	703.0	6.5	703.5
GP-60	DPT	710.0	9.3	700.8	9.0	701.0
GP-61	DPT	710.0	11.5	698.5	10.5	699.5
GP-62	DPT	709.5	14.5	695.0	14.0	695.5
GP-63	DPT	709.1	18.8	690.4	18.0	691.1
GP-64	DPT	706.5	14.5	692.0	18.5	688.0
GP-65	DPT	707.0	15.0	692.0	R	692.0
GP-66	DPT	704.0	15.0	689.0	14.0	690.0
GP-67	DPT	704.5	13.0	691.5	12.5	692.0
GP-68	DPT	704.5	14.5	690.0	14.0	690.5
GP-69	DPT	705.0	16.5	688.5	15.3	689.7
GP-70	DPT	706.0	15.0	691.0	14.0	692.0
GP-71	DPT	707.0	17.0	690.0	15.0	692.0
GP-72	DPT	709.0	15.0	694.0	14.5	694.5
GP-73	DPT	710.2	16.0	694.2	15.5	694.7
GP-74	DPT	710.5	17.0	693.5	16.0	694.5
GP-75	DPT	710.5	12.0	698.5	11.0	699.5
GP-76	DPT	710.5	13.0	697.5	12.5	698.0
GP-77	DPT	710.5	12.5	698.0	11.5	699.0
GP-78	DPT	710.5	10.0	700.5	8.5	702.0
GP-79	DPT	704.5	12.0	692.5	10.0	694.5
GP-80	DPT	711.5	7.0	704.5	6.3	705.2
GP-81	DPT	703.0	11.0	692.0	10.4	692.6
GP-82	DPT	704.5	14.0	690.5	10.5	694.0
GP-83	DPT	705.0	14.0	691.0	13.0	692.0
GP-84	DPT	704.3	11.0	693.3	10.5	693.8
GP-85	DPT	703.5	9.0	694.5	8.5	695.0
GP-86	DPT	703.0	9.0	694.0	8.5	694.5
GP-87	DPT	704.8	13.0	691.8	12.0	692.8
GP-88	DPT	705.5	14.0	691.5	13.0	692.5
GP-89	DPT	706.5	14.0	692.5	13.5	693.0
GP-90	DPT	707.3	14.5	692.8	12.5	694.8
GP-91	DPT	707.9	13.0	694.9	11.5	696.4
GP-92	DPT	706.1	13.0	693.1	12.0	694.1
GP-93	DPT	706.6	12.0	694.6	11.0	695.6
GP-94	DPT	707.6	14.5	693.1	13.0	694.6
GP-95	DPT	709.0	8.0	701.0	7.0	702.0

Table 10
Bedrock Surface Elevation Summary
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Boring ID	Drilling Type	Estimated Ground Surface Elevation (ft NAVD)	Depth To Refusal (ft BGS)	Estimated Refusal Elevation (ft NAVD)	Depth to Top of Bedrock (ft BGS)	Estimated Top of Bedrock Elevation (ft NAVD)
GP-96	DPT	710.1	7.0	703.1	6.0	704.1
GP-97	DPT	712.2	7.0	705.2	6.0	706.2
GP-98	DPT	709.2	12.0	697.2	11.4	697.8
GP-99	DPT	709.5	15.1	694.4	12.0	697.5
GP-100	DPT	710.3	16.0	694.3	10.4	699.9
GP-101	DPT	711.5	9.9	701.6	5.6	705.9
GP-102	DPT	711.2	7.9	703.3	6.0	705.2
GP-103	DPT	711.7	11.3	700.5	9.3	702.4
GP-104	DPT	711.6	8.0	703.6	7.4	704.2
GP-105	DPT	710.9	8.0	702.9	7.2	703.7
GP-106	DPT	710.6	11.8	698.8	11.3	699.3
GP-107	DPT	708.5*	12.0	696.5	11.5	697.0
GP-108	DPT	708.5*	11.9	696.6	8.9	699.6
GP-109	DPT	709.0*	12.0	697.0	11.7	697.3
GP-110	DPT	709.0*	12.0	697.0	11.7	697.3
GP-111	DPT	718.0*	11.5	706.5	8.0	710.0
GP-112	DPT	718.0*	15.0	703.0	10.8	707.2
GP-113	DPT	718.0*	13.9	704.1	9.5	708.5
GP-114	DPT	708.5*	12.0	696.5	8.6	699.9
GP-115	DPT	709.0*	11.8	697.2	10.1	698.9
GP-116	DPT	718.0*	10.7	707.3	10.1	707.9
GP-117	DPT	718.0*	6.5+	<711.5	6.5+	<711.5
GP-118	DPT	718.0*	11.0	707.0	10.2	707.8
GP-119	DPT	718.0*	9.7	708.3	9.6	708.4
GP-120	DPT	718.0*	10.9	707.1	10.2	707.8
GP-121	DPT	718.0*	11.3	706.7	10.8	707.2
GP-122	DPT	718.0*	12.0	706.0	11.8	706.2
GP-123	DPT	710.0*	10.3	699.7	10.1	699.9
GP-124	DPT	710.0*	11.5	698.5	10.7	699.3
GP-125	DPT	712.0*	9.4	702.6	6.0	706.0
MW-1	HSA	723.9	17.8	706.1	NL	--
MW-2	HSA	711.4	17.8	693.6	NL	--
MW-2M	HSA/AR	711.4	18.8	692.6	NL	--
MW-3	HSA	710.5	17.5	693.0	NL	--
MW-4	HSA	709.5	14.5	695.0	NL	--
MW-5	HSA	707.2	24.5	682.7	NL	--
MW-5M	HSA/AR	707.2	24.5	682.7	NL	--
MW-6	HSA	704.1	10.0	694.1	NL	--
MW-7	HSA	703.3	13.7	689.6	NL	--
MW-8	HSA	709.1	20.0	689.1	NL	--
MW-8M	HSA/AR	709.5	20.0	689.5	NL	--

Table 10
Bedrock Surface Elevation Summary
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Boring ID	Drilling Type	Estimated Ground Surface Elevation (ft NAVD)	Depth To Refusal (ft BGS)	Estimated Refusal Elevation (ft NAVD)	Depth to Top of Bedrock (ft BGS)	Estimated Top of Bedrock Elevation (ft NAVD)
MW-9	HSA	711.3	16.8	694.5	NL	--
MW-10	HSA	711.3	9.3	702.0	NL	--
MW-11A	HSA	711.2	15.0	696.2	11.0	700.2
MW-11B	HSA	711.3	--	--	NL	--
MW-12A	HSA	711.3	15.5	695.8	NL	--
MW-12B	HSA	711.3	--	--	NL	--
MW-13	HSA	705.5	12.8	692.7	NL	--
MW-13M	HSA/AR	706.3	14.0	692.3	NL	--
MW-14	HSA	706.5	14.5	692.0	NL	--
MW-15	HSA	702.9	9.0	693.9	NL	--
MW-16	HSA	707.4	14.0	693.4	NL	--
MW-17	HSA	710.3	14.5	695.8	NL	--
MW-18	HSA	711.7	7.0	704.7	NL	--
MW-19	HSA	710.6	9.0	701.6	NL	--
MW-20	HSA	712.0	12.5	699.5	NL	--
MW-21	HSA	709.2	13.5	695.7	NL	--
MW-22	HSA	710.4	13+	<697.4	8.0	702.4
MW-23	HSA	707.6	14+	<693.6	NL	--
MW-24	HSA	705.9	13+	<692.9	NL	--
MW-25	HSA	711.4	12.0	699.4	NL	--
MW-26	HSA	711.2	13.5	697.7	NL	--
MW-27	HSA	711.3	14.0	697.3	NL	--
MW-28	HSA	709.1	14.0	695.1	NL	--

Prepared by: VM 6/21/2012
Checked by: MOR 6/27/2012

Notes:
BGS = Below ground surface
NAVD = North American Vertical Datum of 1988
HSA = Hollow-stem auger
AR = air rotary
HA = hand auger
DPT = Direct-push technology (Geoprobe® or equivalent)
* = Shallow refusal is anomalous, probably not representative of bedrock
R = Top of shale assumed to be at level of DPT refusal
NL = No lithologic log available, or lithologic samples not collected
-- = No data available

Ground surface elevations for onsite boring locations (TW-5 through TW-15 and GP-98 through GP-106) were estimated from "Site Survey" drawing, dated May 14, 2009, provided by Endris Engineering.

* Ground surface elevations for offsite boring locations (GP-107 through GP-115) were interpolated from survey data.

Ground surface, refusal and top of bedrock elevations should be considered approximate.

Table 11
Well Construction and Water Level Data Summary - 2012 Semi-Permanent and Temporary Wells
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project 6251-12-1002

Well ID	KDOW AKGWA #	Completion Date	Abandonment Date	Inner Casing Diameter (in)	Boring Depth (ft BGS)	Sounded Well Depth (ft BMP)	Length of Perforated Section (ft)	Approximate Ground Surface Elevation (ft NAVD)	Casing Relative to Ground Surface (ft)	Approximate Measuring Point Elevation (ft NAVD)	Approximate Bottom of Well Elevation (ft NAVD)	Approximate Top of Screen Elevation (ft NAVD)	Depth to Water (ft BMP)	Approximate Water Level Elevation (ft NAVD)
TW-5	8006-2064	3/5/2012	--	3/4	13.3	12.48	5	711.2	-0.2	711.0	698.5	703.5	10.89	700.1
TW-6	8006-2065	3/5/2012	--	3/4	12.0	11.75	5	711.2	-0.3	711.0	699.2	704.2	2.85	708.1
TW-9	8006-2066	3/5/2012	--	3/4	11.5	11.30	5	711.2	-0.3	710.9	699.6	704.6	DRY	--
TW-10	8006-2067	3/5/2012	--	3/4	11.8	11.82	5	711.2	-0.3	710.9	699.1	704.1	5.92	705.0
TW-11	8006-2068	3/5/2012	--	3/4	17.1	17.09	5	711.2	-0.3	711.0	693.9	698.9	5.26	705.7
TW-12	8006-2063	3/5/2012	--	3/4	15.6	15.70	5	711.2	-0.1	711.1	695.4	700.4	3.78	707.3
TW-13	8006-2069	3/5/2012	--	3/4	15.8	15.81	5	711.2	-0.4	710.9	695.0	700.0	DRY	--
TW-14	8006-2070	3/5/2012	--	3/4	15.8	16.78	5	711.2	-0.2	711.0	694.2	699.2	5.45	705.6
GP-98	--	3/6/2012	3/8/2012	3/4	12.0	15.08	5	709.2	3.0	712.2	697.1	702.1	6.61	705.6
GP-99	--	3/6/2012	3/8/2012	3/4	15.1	14.94	5	709.5	0.1	709.5	694.6	699.6	5.48	704.0
GP-100	--	3/6/2012	3/8/2012	3/4	16.0	17.43	5	710.3	1.3	711.6	694.2	699.2	10.85	700.7
GP-101	--	3/6/2012	3/8/2012	3/4	9.9	10.15	5	711.5	0.2	711.7	701.6	706.6	8.24	703.5
GP-102	--	3/7/2012	3/8/2012	3/4	7.9	7.62	5	711.2	-0.2	711.1	703.4	708.4	DRY	--
GP-103	--	3/6/2012	3/8/2012	3/4	11.3	10.91	5	711.7	-0.2	711.5	700.6	705.6	9.49	702.0
GP-104	--	3/7/2012	3/8/2012	3/4	8.0	7.61	5	711.6	-0.2	711.4	703.8	708.8	DRY	--
GP-105	--	3/7/2012	3/8/2012	3/4	8.0	7.18	5	710.9	-0.1	710.8	703.6	708.6	DRY	--
GP-106	--	3/7/2012	3/8/2012	3/4	11.8	11.77	5	710.6	-0.2	710.4	698.7	703.7	10.94	699.5
GP-107	--	3/7/2012	3/8/2012	3/4	12.0	14.92	5	708.5*	3.2	711.7	696.8	701.8	14.40	697.3
GP-108	--	3/7/2012	3/8/2012	3/4	11.9	14.96	5	708.5*	3.0	711.5	696.5	701.5	7.86	703.6
GP-109	--	3/7/2012	3/8/2012	3/4	12.0	14.98	5	709.0*	3.0	712.0	697.0	702.0	9.57	702.4
GP-110	--	3/7/2012	3/8/2012	3/4	12.0	14.94	5	709.0*	3.0	712.0	697.0	702.0	13.21	698.7
GP-111	--	3/7/2012	3/9/2012	3/4	11.5	14.95	5	718.0*	3.4	721.4	706.4	711.4	7.24	714.1
GP-112	--	3/7/2012	3/9/2012	3/4	15.0	16.20	5	718.0*	1.0	719.0	702.8	707.8	15.11	703.9
GP-113	--	3/8/2012	3/8/2012	3/4	13.9	13.82	5	718.0*	0.4	718.4	704.6	709.6	2.80	715.6
GP-114	--	3/8/2012	3/8/2012	3/4	12.0	14.89	5	708.5*	3.4	711.9	697.0	702.0	3.45	708.4
GP-115	--	3/8/2012	3/8/2012	3/4	11.8	14.80	5	709.0*	3.8	712.8	698.0	703.0	10.45	702.3
GP-116	--	5/29/2012	5/30/2012	3/4	10.7	15.14	5	718.0*	4.3	722.3	707.2	712.2	DRY	--
GP-117	--	5/29/2012	5/30/2012	3/4	6.5	7.02	2	718.0*	0.5	718.5	711.5	713.5	DRY	--
GP-118	--	5/29/2012	5/30/2012	3/4	11.0	15.15	5	718.0*	4.0	722.0	706.9	711.9	DRY	--
GP-119	--	5/29/2012	5/30/2012	3/4	9.7	10.12	5	718.0*	0.3	718.3	708.2	713.2	1.37	716.9
GP-120	--	5/29/2012	5/30/2012	3/4	10.9	15.13	5	718.0*	4.1	722.1	707.0	712.0	DRY	--
GP-121	--	5/29/2012	6/15/2012	3/4	11.3	15.14	5	718.0*	3.7	721.7	706.6	711.6	DRY	--
GP-122	--	5/30/2012	6/1/2012	3/4	12.0	15.15	5	718.0*	3.1	721.1	706.0	711.0	12.68	708.4
GP-123	--	5/30/2012	6/2/2012	3/4	10.3	15.16	5	710.0*	4.6	714.6	699.4	704.4	13.37	701.2
GP-124	--	5/30/2012	6/15/2012	3/4	11.5	15.07	5	710.0*	3.6	713.6	698.5	703.5	DRY	--
GP-125	--	5/30/2012	6/2/2012	3/4	9.0	10.05	5	712.0*	0.6	712.6	702.6	707.6	1.77	710.8

Prepared by: VM 6/29/2012
Checked by: MDR 6/26/2012

Notes

ft = feet in = inches
MP = measuring point
GS = ground/floor surface
WLE = water level elevation
-- = not available
est. = estimated

BMP = below measuring point
BGS = below ground surface
NAVD = North American Vertical Datum of 1988
KDOW AKGWA # = well number assigned in the Kentucky Division of Water's Assembled Kentucky Groundwater Database
Ground surface elevations for onsite wells were estimated from "Site Survey" drawing, dated May 14, 2009, provided by Endris Engineering. Surface elevations are approximate.
* Ground surface elevations for offsite temporary well locations (GP-107 through GP-115) were interpolated from survey data
** Water level readings were collected approximately 24 to 48 hrs after well construction.

Table 12
Soil Boring Summary Diagram
RBTC LDB # 1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

	GP-116 5/29/12	GP-117 5/29/12	GP-118 5/29/12	GP-119 5/29/12	GP-120 5/29/12	GP-121 5/29/12	GP-122 5/30/12	GP-123 5/30/12	GP-124 5/30/12	GP-125 5/30/12
Field GW TCVOCs (CTU)				ND			ND	ND		ND
Lab GW TCVOCs (ppm)				***0***			***0***	***0***		***0***
DTW (ft BMP)	DRY	DRY	DRY	1.37	DRY	DRY	DRY	DRY	DRY	4.90
Depth (ft)										
0.0										
0.5										
1.0										
1.5	0.3	0.9	14.5	0.3	0.3	0.3	N/A	N/A	N/A	N/A
2.0		ND	ND					ND	ND	ND
2.5										
3.0										
3.5										
4.0	0.3	NS	0.5	0.3	0.3	0.3	N/A	N/A	N/A	N/A
4.5	ND			ND	ND	ND	ND	ND	ND	ND
5.0										
5.5										
6.0										
6.5		NS					N/A			
7.0		R					ND			
7.5	0.2		0.7	0.3	0.3	0.3	N/A	N/A	N/A	N/A
8.0							ND	ND	ND	ND
8.5							N/A			
9.0							ND			R
9.5				0.3						
10.0	0.3		0.5	ND	0.3			N/A		
10.5	ND		ND	R	ND	0.3	N/A	ND	N/A	
11.0	R				R	ND	ND	R	ND	
11.5			R			R			R	
12.0							R			
12.5										

Prepared by: VM 6/20/12
Checked by: MOR 6/26/12

Notes:
DTW - Depth to water (stabilized) in **blue**
Soil PID results (PID-ppm) in **black**
Soil and groundwater Color-Tec (Total CVOC in CTUs) results in **red**
Lab Total CVOC results (ppm) in *purple*
R - Boring terminated at refusal

ND - Non-Detect
NR - No Recovery
NS - Not Sampled/Low Recovery
N/A - Not Applicable or Not Available

Table 13
Summary of Water Analytical Results, May - June 2012 - Temporary Wells
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

				Field Sample ID	GP-119	GP-119 DUP	GP-122	GP-123	GP-125
				Sample Collection Date	05/30/12	05/30/12	06/01/12	06/01/12	05/30/12
	Units	RSL	MCL						
Chlorinated Volatile Organic Compounds									
Tetrachloroethene	mg/L	0.00011	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	mg/L	0.002	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	mg/L	0.34	0.007		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	mg/L	0.073	0.07		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
trans-1,2-Dichloroethene	mg/L	0.11	0.1		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	mg/L	0.000016	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1-Trichloroethane	mg/L	9.1	0.2		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,2-Trichloroethane	mg/L	0.00024	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethane	mg/L	0.0024	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dichloroethane	mg/L	0.00015	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	mg/L	0.00044	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total CVOCs	mg/L				***0***	***0***	***0***	***0***	***0***
Other Volatile Organic Compounds									
Acetone	mg/L	22	---		<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	mg/L	0.00019	0.08		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2-Butanone (MEK)	mg/L	7.1	---		<0.010	<0.010	<0.010	<0.010	<0.010
Methylene Chloride	mg/L	0.0048	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
4-Methyl-2-pentanone (MIBK)	mg/L	2.0	---		<0.010	<0.010	<0.010	<0.010	<0.010
Methyl tert-butyl ether	mg/L	0.012	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Benzene	mg/L	0.00041	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Butylbenzene	mg/L	1.8	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	mg/L	0.0015	0.7		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	mg/L	0.68	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Naphthalene	mg/L	0.00014	---		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	mg/L	2.3	1		**0.00046** J	**0.00042** J	**0.0014** J	**0.00052** J	<0.0050
1,2,4-Trimethylbenzene	mg/L	0.015	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,3-Trimethylbenzene	mg/L	0.010	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,3,5-Trimethylbenzene	mg/L	0.37	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylenes, Total	mg/L	0.20	10		<0.0030	<0.0030	**0.0010** J	<0.0030	<0.0030
1,4-Dichlorobenzene	mg/L	0.00043	0.075		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chlorobenzene	mg/L	0.091	0.1		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
p-Isopropyltoluene	mg/L	---	---		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

Prepared by: VM 6/19/12
Checked by: SMD 6/19/12

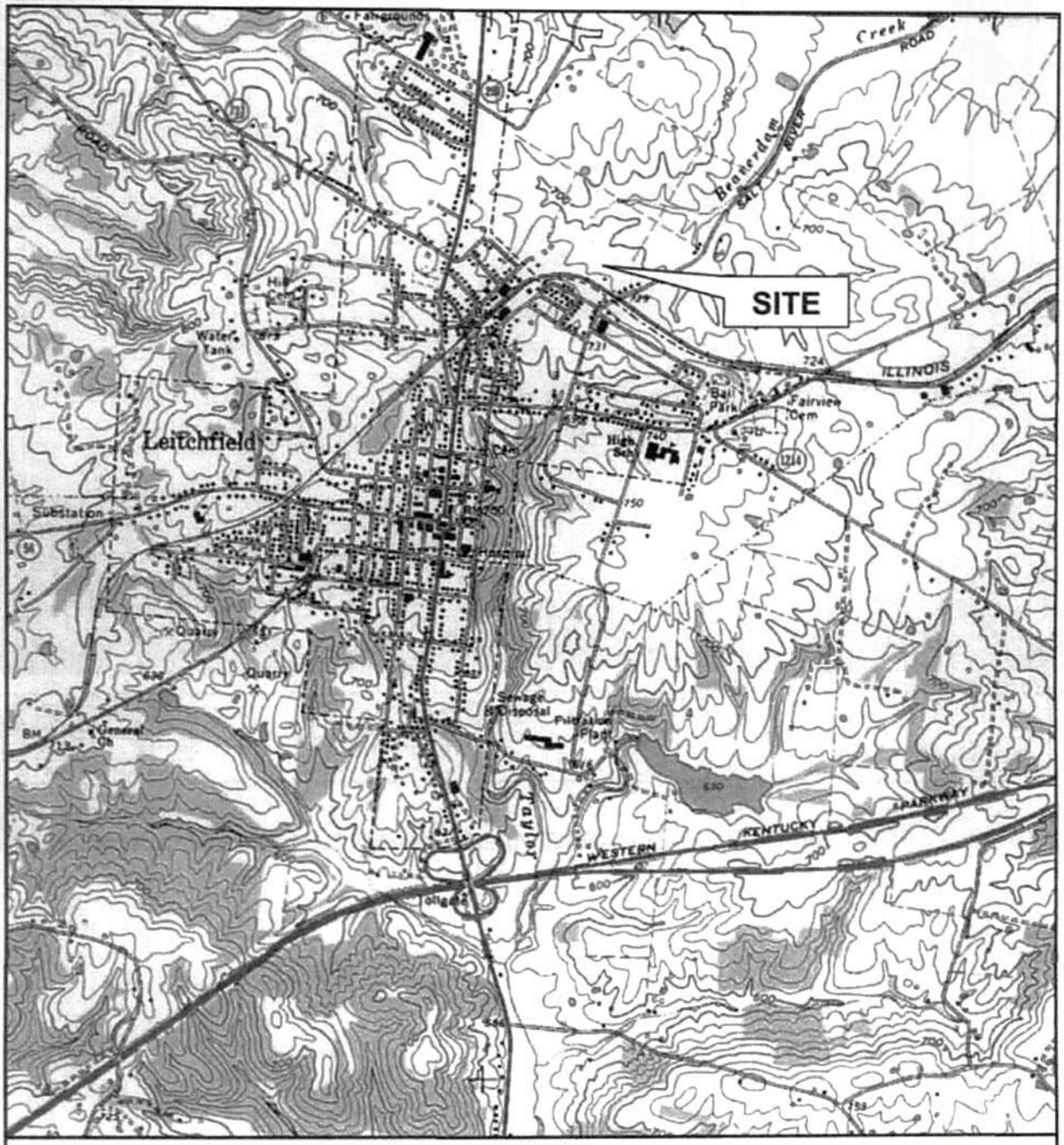
Table 13
Summary of Water Analytical Results, May - June 2012 - Temporary Wells
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Notes:
mg/L Milligrams per liter
--- Not analyzed, not established, or not available
MCL USEPA Maximum Contaminant Level, or Action Level, for drinking water
RSL U.S. EPA Regional Screening Level (June 2011)
Detected values are indicated in **bold**.
Values exceeding the MCL (or, if no MCL is established, the tap water RSL) are shaded
See laboratory reports for information on laboratory qualifiers
"*Total CVOCs*" is calculated as the sum of the CVOC values, non-detects are counted as zero
Laboratory Qualifiers:
J (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Table 14
Additive Risk Calculation - CVOCs
RBTC LDB #1, Leitchfield, Kentucky
AMEC Project No. 6251-12-1002

Parameter	Res Air RSL June 2011	CSA-1	Norm Conc*	CSA-2	Norm Conc*	CSA-3	Norm Conc*	CSA-4	Norm Conc*	CSA-6	Norm Conc*	CSA-5	Norm Conc*	CSA-7 (DUP)	Norm Conc*
Sample Date		5/24/2012		5/24/2012		5/24/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012	
1,1,1-Trichloroethane	*5,200*	<0.080		<0.080		<0.080		<0.074		<0.077		<0.074		<0.074	
1,1,2,2-Tetrachloroethane	*0.042*	<0.10		<0.10		<0.10		<0.094		<0.097		<0.094		<0.094	
1,1,2-Trichloroethane	*0.15*	<0.080		<0.080		<0.080		<0.074		<0.077		<0.074		<0.074	
1,1-Dichloroethane	*1.5*	<0.059		<0.059		<0.059		<0.055		<0.057		<0.055		<0.055	
1,1-Dichloroethene	*210*	<0.058		<0.058		<0.058		<0.054		<0.056		<0.054		<0.054	
1,2-Dichloroethane	*0.094*	**0.66**	7.0	**0.67**	7.1	**0.77**	8.2	**0.64**	6.8	<0.057		<0.055		<0.055	
Carbon tetrachloride	*0.41*	**0.95**	2.3	**0.73**	1.8	**0.79**	1.9	**0.88**	2.1	<0.089		<0.086		<0.086	
Tetrachloroethene	*0.41*	**0.90**	2.2	**0.35**	0.9	**1.2**	2.9	**0.22**	0.5	<0.096		<0.092		<0.092	
Trichloroethene	*1.2*	**1.6**	1.3	**0.43**	0.4	**2.0**	1.7	**0.49**	0.4	<0.038		<0.037		<0.037	
Vinyl chloride	*0.16*	<0.037		<0.037		<0.037		<0.035		<0.036		<0.035		<0.035	
cis-1,2-Dichloroethene	–	<0.058		<0.058		<0.058		<0.054		<0.056		<0.054		<0.054	
trans-1,2-Dichloroethene	*63*	**0.84**	0.0	**0.76**	0.0	**1.1**	0.0	**0.35**	0.0	<0.056		<0.054		<0.054	
Additive Risk Level			**12.9**		**10.1**		**14.7**		**9.9**		0		0		0

Notes:
Norm Conc - Normalized concentration=concentration/RSL



SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE MAP, LEITCHFIELD, KENTUCKY, 1967

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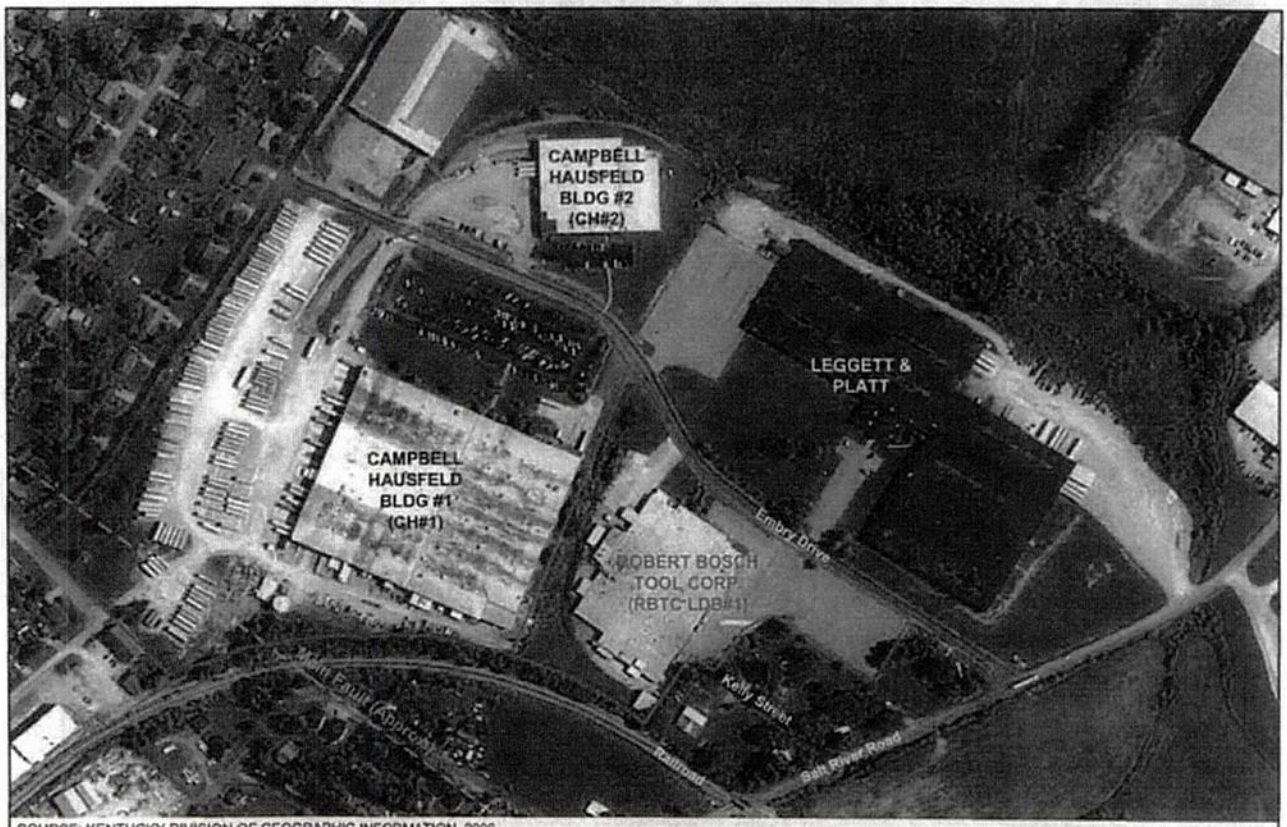
TOPOGRAPHIC MAP
ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY
PROJECT NUMBER: 6251-12-1002

SCALE	1" = 2000'
DATE	06/27/2012
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 1



SOURCE: KENTUCKY DIVISION OF GEOGRAPHIC INFORMATION, 2006

0 150 300
APPROX. SCALE IN FEET

NORTH

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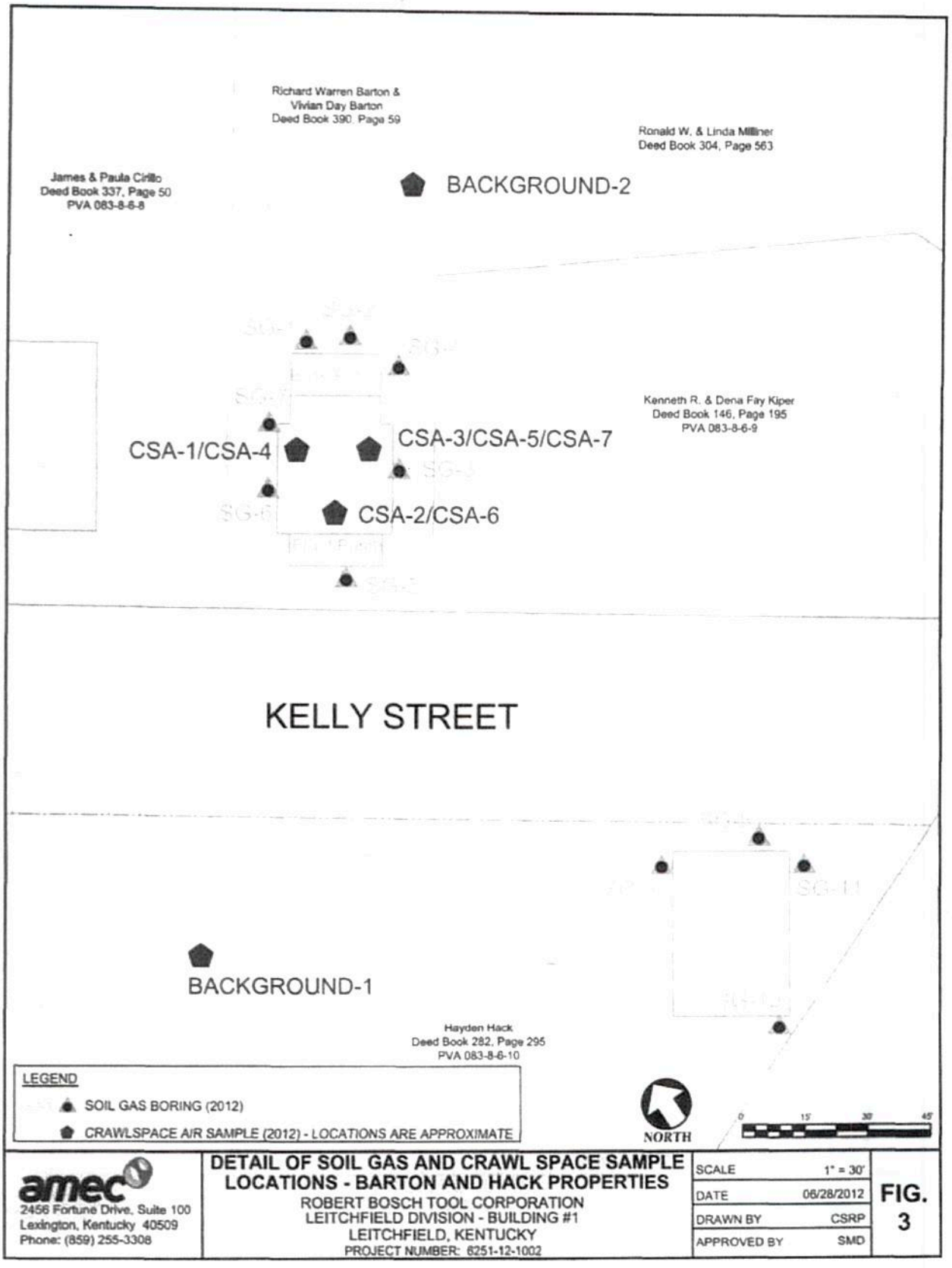
AERIAL PHOTOGRAPH
ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY
PROJECT NUMBER: 6251-12-1002

APPROX. SCALE	1" = 300'
DATE	06/27/2012
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 2



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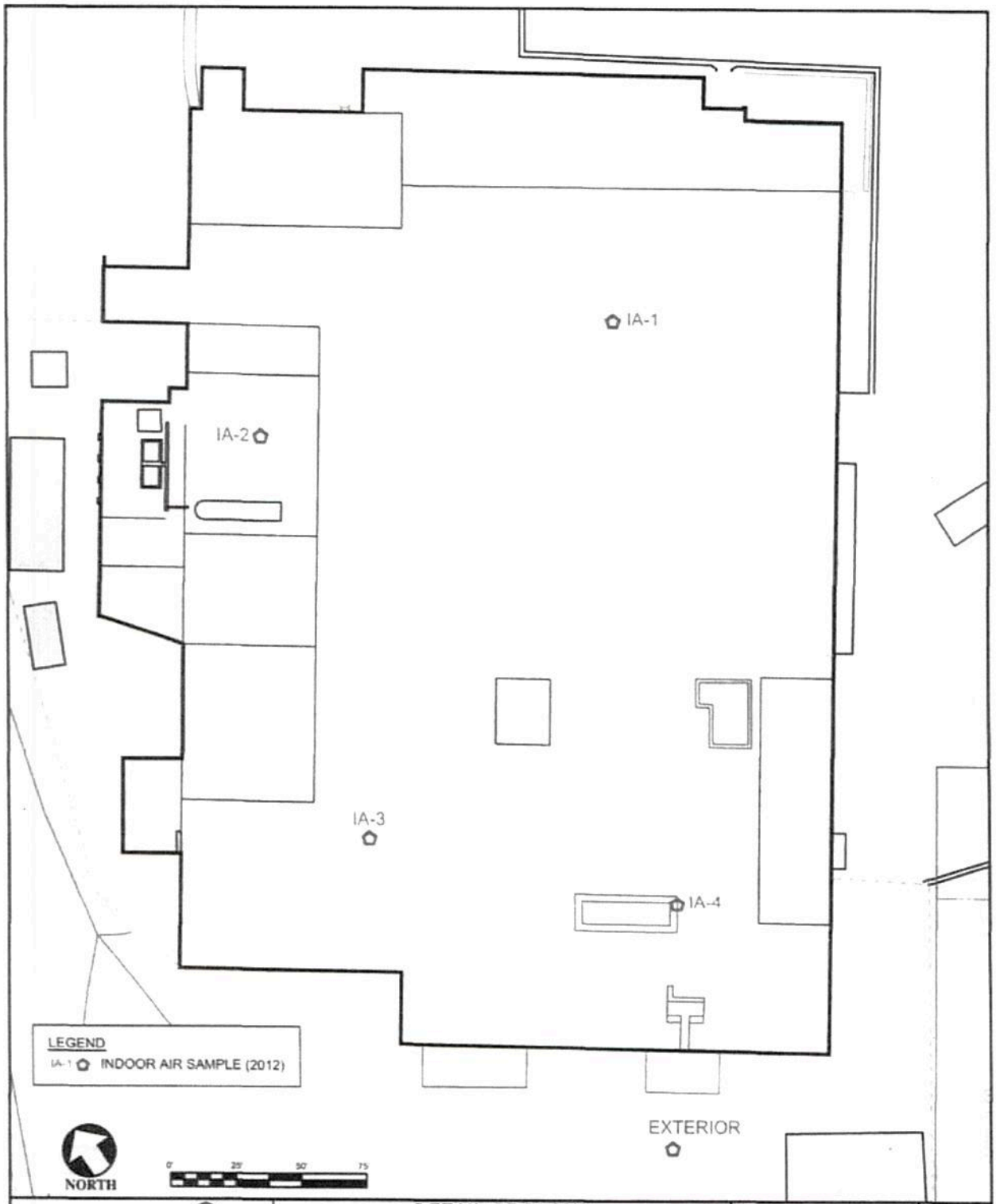
DETAIL OF SOIL GAS AND CRAWL SPACE SAMPLE LOCATIONS - BARTON AND HACK PROPERTIES

ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY
PROJECT NUMBER: 6251-12-1002

SCALE	1" = 30'
DATE	06/28/2012
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 3



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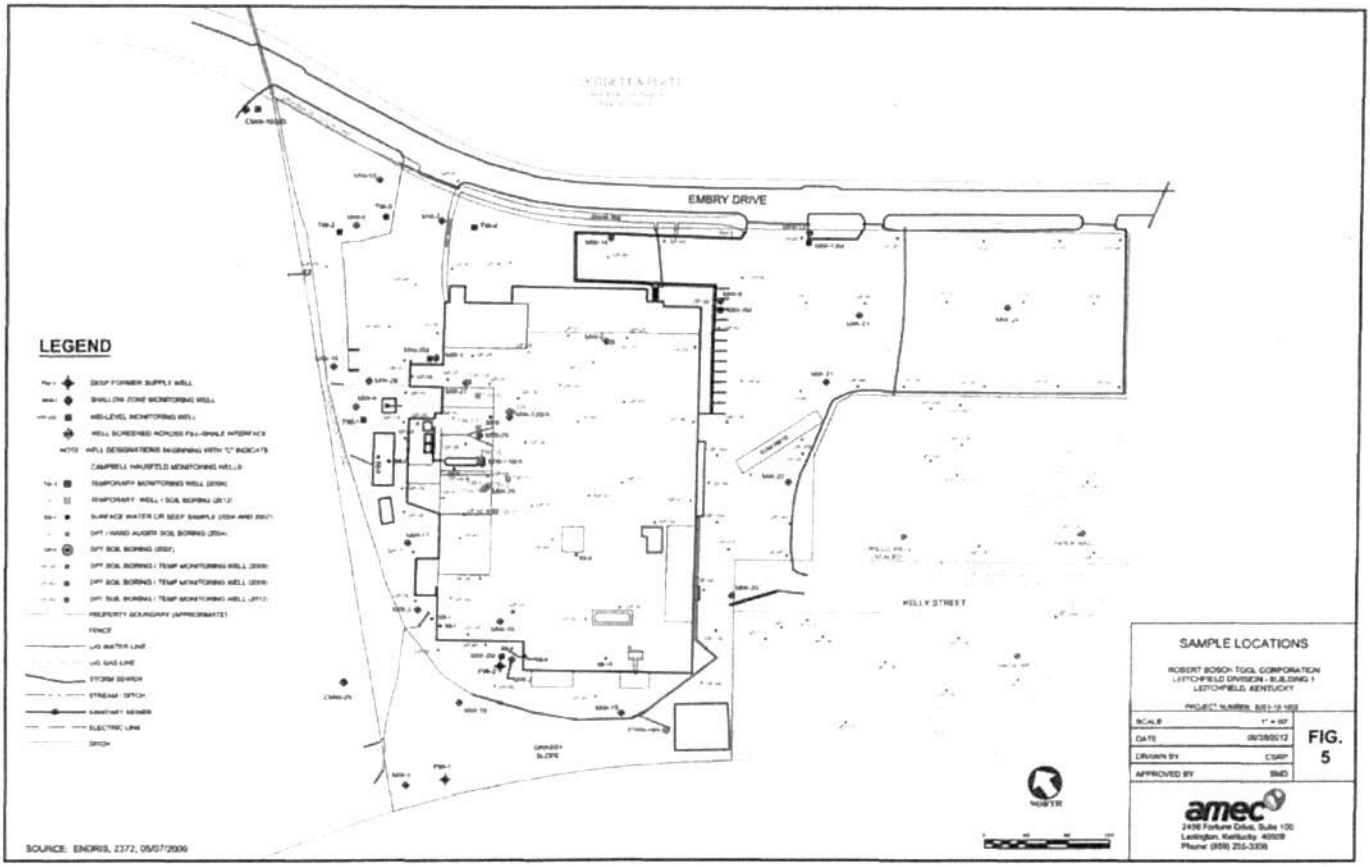
DETAIL OF PLANT
INDOOR AIR SAMPLING LOCATIONS
ROBERT BOSCH TOOL CORPORATION
LEITCHFIELD DIVISION - BUILDING #1
LEITCHFIELD, KENTUCKY
PROJECT NUMBER: 6251-12-1002

SCALE	1" = 50'
DATE	06/28/2012
DRAWN BY	CSRP
APPROVED BY	SMD

FIG. 4


EMBRY DRIVE
KELLY STREET
LEGEND
SOURCE: ENDRIS, 2372, 05/07/2009
SAMPLE LOCATIONS
ROBERT BOSCH TOOL CORPORATION
LITCHFIELD DIVISION - BUILDING 1
LEITCHFIELD, KENTUCKY
SCALE 1" = 80'
DATE 06/28/2012
DRAWN BY CSMP
APPROVED BY SND
FIG. 5
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